Manitoba

Annual Report 2001 - 2002

Conservation

Includes 10% post-consumer waste

MINISTER OF CONSERVATION

Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

The Honourable Peter M. Liba, C.M.
Lieutenant Governor of Manitoba
Government House
Winnipeg, Manitoba
R3C 0V8

Your Honour:

I am pleased to present you with this the 3rd Annual Report of the Manitoba Department of Conservation for the year ending March 31, 2002.

Yours sincerely,

Oscar Lathlin
Minister

103-01041

Manitoba

Deputy Minister of
Conservation

Legislative Building
Winnipeg, Manitoba CANADA
R3C 0V8

The Honourable Oscar Lathlin
Minister of Conservation
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Dear Sir:

I am pleased to provide the Annual Report of Manitoba Conservation for the fiscal year 2001-2002.

Respectfully submitted,

Norman B. Brandson
Deputy Minister

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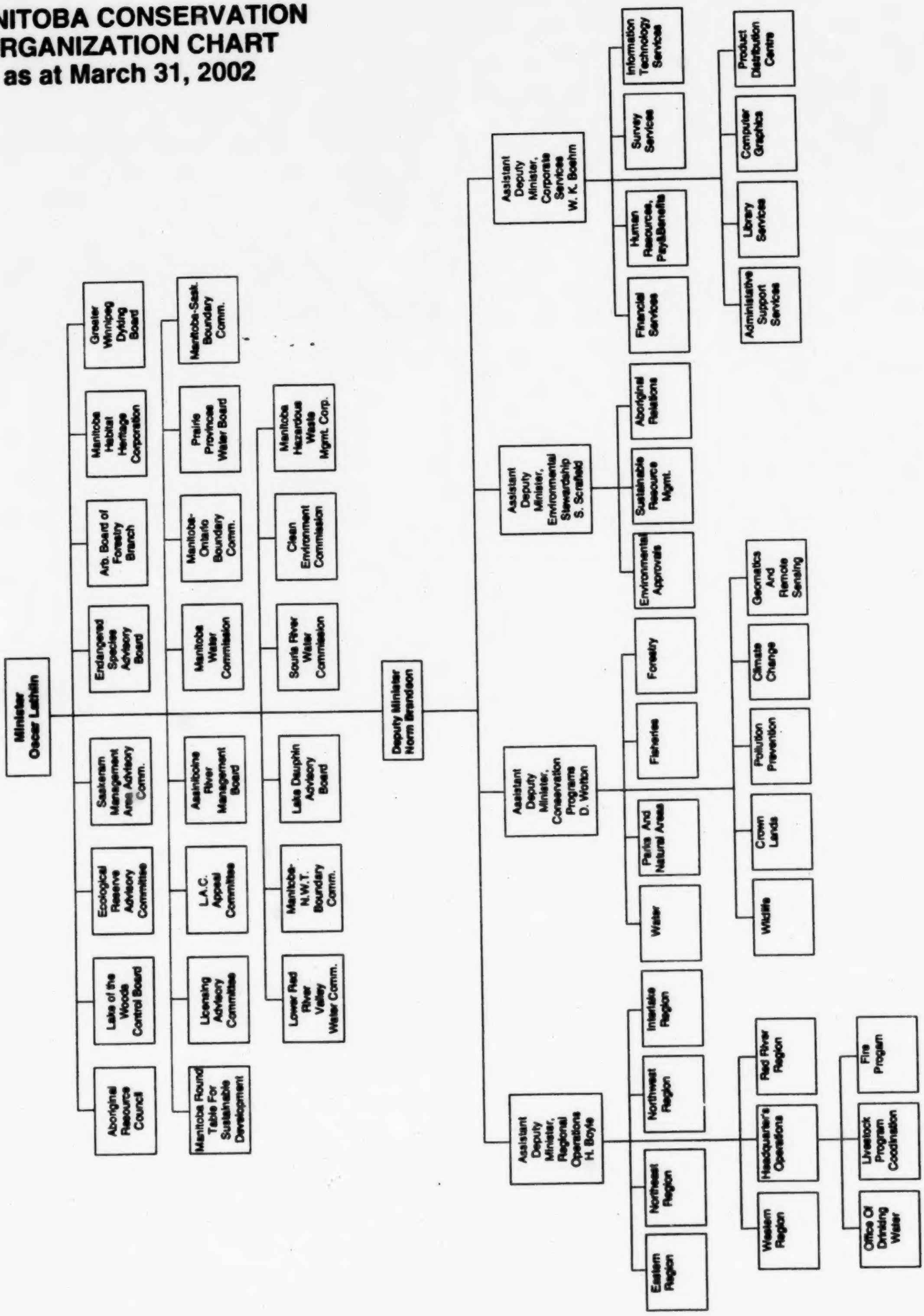
Figure 1

MANITOBA CONSERVATION ORGANIZATION CHART as at March 31, 2002


Minister Oscar Lathlin
Aboriginal Resource Council
Lake of the Woods Control Board
Ecological Reserve Advisory Committee
Saskeram Management Area Advisory Comm.
Endangered Species Advisory Board
Arb. Board of Forestry Branch
Manitoba Habitat Heritage Corporation
Greater Winnipeg Dyking Board
Manitoba Round Table For Sustainable Development
Licensing Advisory Committee
L.A.C. Appeal Committee
Assiniboine River Management Board
Manitoba Water Commission
Manitoba-Ontario Boundary Comm.
Prairie Provinces Water Board
Manitoba-Sask. Boundary Comm.
Lower Red River Valley Water Comm.
Manitoba-N.W.T. Boundary Comm.
Lake Dauphin Advisory Board
Souris River Water Commission
Clean Environment Commission
Manitoba Hazardous Waste Mgmt. Corp.
Deputy Minister Norm Brandson
Assistant Deputy Minister, Regional Operations H. Boyle
Eastern Region
Northeast Region
Northwest Region
Interlake Region
Western Region
Headquarters Operations
Red River Region
Office Of Drinking Water
Livestock Program Coordination
Fire Program
Assistant Deputy Minister, Conservation Programs D. Wotton
Water
Parks And Natural Areas
Fisheries
Forestry
Wildlife
Crown Lands
Pollution Prevention
Climate Change
Geomatics And Remote Sensing
Assistant Deputy Minister, Environmental Stewardship S. Scrafield
Environmental Approvals
Sustainable Resource Mgmt.
Aboriginal Relations
Assistant Deputy Minister, Corporate Services W. K. Boehm
Financial Services
Human Resources, Pay&Benefits
Survey Services
Information Technology Services
Administrative Support Services
Library Services
Computer Graphics
Product Distribution Centre

Chapter 1

Highlights

Administration and Finance

Human Resource Services

- Preliminary development of an Employee Orientation Program.
- Extended the Aboriginal Career Development Program to 16 departmental employees.
- Developed and delivered an Aboriginal Cultural Awareness Workshop
- Delivered 2 day Recruitment and Selection workshops to 70 employees
- Delivered Labour Relations Workshops to over 100 managers and supervisors in partnership with Labour Relations Branch, Treasury Board Secretariat.

Information Systems Technology

The Department achieved significant advancements in environmental monitoring and inspections through deployment of a new Environmental Management System. Six primary software modules were deployed to over 100 users for environmental and health inspections and enforcement tracking.

A new software package, ENFOR, is being adopted and customised to replace an out-dated enforcement/tracking and incident-occurrence reporting system in Region offices, for Headquarters Operations. The system, Intranet-based, will be available to over 200 Natural Resource Officers and Region staff.

Manitoba Land Initiative continues to be developed to consolidate, catalogue, and warehouse all government geospatial GIS data, to provide a central distribution process for internal and external clients. A related project included development of an Internet-based GIS decision support system for flood issues in Red River Valley.

A new Crown Lands Registry System and accounting software package was developed and is being tested. The new Registry will be completed and deployed next year to 50 users.

Regional Operations

A team was established to administer *Livestock Manure and Mortalities Management Regulation*. Team members, including Environment Officers and Environmental Engineers, are regionally based to provide local coverage. Primary team responsibilities include investigation of complaints, annual inspection of permitted manure storage facilities, inspection of facility construction, and enforcement of regulations on management of manure and mortalities.

Office of Drinking Water was established in response to the Drinking Water Advisory Committee Report with five positions; two engineers, two technical, and one clerical. The Office will:

- Co-ordinate activities of the Drinking Water Program.
- Communicate clearly and consistently to the public and other government jurisdictions on these activities.
- Provide an effective and efficient centrally-co-ordinated drinking water program across the Department's six Regions,
- Assure safe, adequate, aesthetically pleasing and acceptable, public drinking water supplies.

The Minister announced the Orphan Mine Site Program to address environmental health issues associated with a number of un-rehabilitated mine sites in the north. The $1,000,000 program, budgeted over 2001-2005, is complementary to the Orphan Mine Site Rehabilitation Program announced by Manitoba Industry, Trade and Mines.

538 fires burned 78,913.4 hectares, just over long-term average of 525 starts but well below long-term average of 358,425 ha burned. Spring started with earlier-than-normal fire starts, due to warm, dry winter, but spring rains reduced hazard. Most serious fires occurred in late June and early July in Lynn Lake District of Northeast Region, resulting in dispatch of a fire team.

Fire suppression training to the national standard (CIFFC) occurred to ensure Initial Attack personnel were certified to this level. Training to a national level allows personnel to be exported to other provinces for fire suppression. Two inter-provincial resource exchanges occurred: 12 Northeast Region personnel were exported to Alberta, and 11 to British Columbia.

Pioneer Bay campground in Clearwater Lake Provincial Park was redeveloped after being closed some 25 years ago. Twenty-seven electrical sites, a new modern washroom and showers were developed on Clearwater's nicest beach.

At Paint Lake Provincial Park, 43 transient electrical campsites were levelled and enlarged to better accommodate larger modern camping units.

Beach Safety staff at Birds Hill, Grand Beach, and Winnipeg Beach Parks estimate 894,200 people used these beaches, averaging 9,110 people/day, of which Grand Beach accounts for 87%.

Nelson River Sturgeon Co-Management Board continues to pursue stocking as a rehabilitation tool. About 20,000 fingerlings, raised at Grand Rapids Hatchery, were stocked at four locations on Nelson River. This was almost four times any previous stocking.

Polar Bear Alert Program in Churchill handled 142 bears; the largest number ever handled in the Program. 201 occurrences in the Control Zone were about 25% higher than average. Increase in captures was due to a large increase in number of family groups--females with cubs--in the area.

Manitoba Conservation worked with Manitoba Hydro, Centra Gas, and the Narcisse Snake Mortality Advisory Group to reduce snake mortality on PTH 17, adjacent to Narcisse Snake Dens. The tunnel and barrier fence system was expanded to 10 culverts, covering most of the migratory corridor, reducing snake mortality by 75%.

The first year of Bears and Bees project was completed near Ethelbert. Six big-game hunting outfitters installed 20 electric fences around chronic beeyard depredation sites. Nuisance bear kill was significantly reduced, no fences were breached by bears, and honey production profits increased.

A hazardous waste disposal company was fined $20,000 for violating ***The Dangerous Goods Handling and Transportation Act***. The fine culminated an investigation begun in 1999.

Water Management

- Completed $22.3 million further flood protection for homes/businesses, community dykes and related program elements under the *Canada-Manitoba Flood Proofing Agreement*.
- Two major projects for enhancing flood protection in Winnipeg were studied: expanded Red River Floodway, costing $660 million and providing 1-in-700-year-flood protection, and Ste. Agathe Detention Structure, costing $543 million with 1-in-1000-year protection.
- *Water Strategy* discussion paper, leading to comprehensive water legislation and locally-driven water management based on watershed or aquifer boundaries, was released; a steering committee formed to lead the project.
- Stakeholder-supported planning for aquifers and watersheds, leading to protection and sustainable use of resources, was conducted.

- About $104 million in fees collected for water storage and land-use rentals related to waterpower projects.
- A new Website where flood-fighters and residents can interactively obtain current, site-specific, flood information, such as water levels, building elevations, and dyke-building details, was developed.
- Better understanding of groundwater quality, sustainability, and susceptibility to impacts, from extensive monitoring, testing, recording, and analysis of groundwater conditions.
- Ensured performance and public safety by maintaining and refurbishing important flood-protection works such as Red River Floodway and Assiniboine River dykes.
- Co-ordinated preparation of administrative appeal before U.S. Bureau of Reclamation on its decision to proceed with Northwest Area Water Supply Project (a Garrison Diversion project that would transfer water from Missouri River basin to Hudson Bay basin).
- Completed first technical report under the Nutrient Management Strategy that assessed trends in concentrations of nitrogen and phosphorus at over 40 long-term, water quality monitoring sites.
- Provided extensive input to Clean Environment Commission hearings on the Simplot potato processing plant and related wastewater treatment facility upgrade, in Portage la Prairie.
- Provided technical support on such transboundary issues as proposed outlet from Devils Lake and Garrison Project.
- Continued to lead Manitoba's input to a watershed management plan for Shoal Lake, Winnipeg's water supply.

Parks and Natural Areas

Pembina Valley Provincial Park became Manitoba's 75th Provincial Park and the first full Park created under the ***Provincial Parks Act*** (1996), designated as a Protected Area.

Seven new protected Park Reserves (Goose Islands, Grand Island, Kinwow Bay, Pelican Islands, Pemmican Island, Sturgeon Bay and Walter Cook Uplands Caves) were created and extended for a 5 years. All or parts of 8 Wildlife Management Areas were also protected.

The *Management Plan* for Grand Beach was finalized. Planning for Atikaki Provincial Park and the Bloodvein Canadian Heritage River continued and management planning for Duck Mountain Provincial Park was initiated with the first round of public drop-in sessions.

Management planning for Hayes River was initiated with formation of a planning team and the first round of public drop-in sessions. This process, expected to continue for two years, will allow designation as a Canadian Heritage River.

A brochure describing the Ecological Reserves Program was printed and a Website was developed.

Discussion continued with Parks Canada, Manitoba Forestry Branch, and Manitoba Hydro on possible boundary reconfigurations for Long Point component of the proposed Manitoba Lowlands National Park.

Major design and development projects included:
- Development of facilities at Pembina Valley.
- Design of commercial plaza and buildings at Grand Beach.
- Concepts for equestrian campground and day-use area at Birds Hill.
- Completion of West Hawk Lake Fish Hatchery Visitor Centre (developed with Fish Futures).
- Continued design of South Whiteshell Trail and visitor kiosk at West Hawk Lake.
- Development of accessible fishing opportunity at Birds Hill Lake (with the Manitoba Fly Fishers Association).
- Design of proposed Prairie Golf Course and concession area redevelopment at Asessippi.
- Detailed designs for Falcon Lake Waterfront.

Interpretative programs included full-time interpreters in several major Parks. Interpreters contacted 81,070 visitors at field programs and in interpretative centres and museums. Interpretative exhibits were developed for self-guiding trails at St. Ambroise Beach (bilingual), Asessippi (Village area), and Winnipeg Beach.

Marketing initiatives included a comprehensive communication strategy with Manitoba Culture, Heritage and Tourism, producing a new brochure and advertising for Volunteer Campground Host program, developing and implementing a promotional/awareness campaign for new Canadians, reprinting *Manitoba Magic: Provincial Parks Guide, Parks Reservation Service, Family Vacation Cabins,* and *Fall Camping* brochures, and a full-page advertisement in *Woodall's North American Campground Directories*.

About 5.3 million people visited Provincial Parks. 5,815 campsites were available, including about 4,291 transient sites (of which 2,653 or 61.8 percent were available for reservation), and 1,524 seasonal sites. 178,276 transient camping nights and 44,280 seasonal nights were recorded.

Parks Reservation Service placed more campers onto sites through reservation. 32,739 reservations were made, 4,000 (13.8%) over last year. Reservations were offered in 39 campgrounds, 25 group-use areas and two cabin locations.

New initiatives included: a comprehensive strategy for disabled-accessible campsite development, developing and implementing a revised Volunteer Campground Host program, and re-tendering call-centre services for Parks Reservation Service.

Major campground improvements included campground expansion in Whiteshell (Big Whiteshell and Brereton Lakes), campsite enlargement and levelling at Paint Lake, and campground electrification in Bakers Narrows and Clearwater Lake Parks. The swimming lake at Birds Hill was levelled with sand, and group-use areas developed at Norris Lake and St. Malo. Washroom buildings were upgraded throughout the system. Resurfacing of Grand Beach roads included widening for bicycle lanes. Additional work on the bicycle trail from Falcon Lake to West Hawk Lake was completed. Water system upgrades and disability access continue to be priorities. The sewage lagoon expansion at Falcon Lake was completed, as was the solid waste transfer station for Hecla.

Climate Change

- Served on the Secretariat of the Manitoba Climate Change Task Force, chaired by Lloyd Axworthy, and chaired the interdepartmental working group that supported the Task Force.
- Participated in national co-operative approach to considering Kyoto Protocol ratification and advocated for Manitoba on National Air Issues Co-ordinating Committee.
- Encouraged climate change as research priority in five-year agreement with International Institute for Sustainable Development,
- Supported membership in Prairie Adaptation Research Collaborative (PARC).

Forestry

- Worked with Industry, Trade and Mines on responding to the U.S. Department of Commerce's countervail investigation of softwood lumber imports from Canada. Forestry Branch provided questionnaire responses, co-ordinated the company-exclusion process and participated in bilateral discussions to find a non-litigated solution to the trade dispute.
- Completed its fourth *Five Year Report to the Legislature on the Status of Forests in Manitoba* and assisted producing *Next Steps: Priorities for Sustaining Manitoba's Forests*.
- Protected 18,520 hectares (exceeding 18,000 ha target) of commercial forest from a spruce budworm infestation northeast of Flin Flon.
- Removed 14,313 diseased and hazard elm trees, assisted by low levels of fall and winter precipitation.

- Completed a wood supply analysis to establish interim Annual Allowable Cut (AAC) for proposed sawmill complex by Tembec and the First Nations Limited Partnership. Initiated a timber volume sampling contract to support the new forest inventory in Forest Management Licence Area 1 and Forest Management Unit 35.
- Completed the first year of the cost-shared multi-million dollar Forest Lands Inventory pilot project with Louisiana Pacific Canada.
- Completed report that assesses timber utilization at stand level and impacts on AAC resulting from changing treetop utilization standard from 3" to 4" in FML 2.

Fisheries

A Sustainable Development Website was developed to integrate sustainable development concepts into the new Kindergarten-Grade 8 *Science: Manitoba Curriculum Framework of Outcomes*. The site is a Manitoba first in integrating fisheries information into science curriculum via the Internet. The site was promoted at teacher workshops and conferences, including the Special Areas Group (Science) workshop. Work will continue with educators to develop exercises for Grades 9 to 12, for implementation in fall 2002.

At Whiteshell Fish Hatchery, the Visitor Centre was officially opened. Park interpreters staff the building and gave tours to more than 2,800. The Centre provides a sheltered area to begin tours, washrooms, and drinking water. Interpretative exhibits include information on species reared at the Hatchery, life stages of fish, how water is used, history of the Hatchery, and the like.

The Branch continued to participate in the national Recreational Fishing Task Group and co-chair the national Freshwater Fish Strategy Task Group. These Groups, reporting to Canadian Council of Fisheries and Aquaculture Ministers, are developing co-ordinated action plans that involve stakeholders and maximize management efficiency and effectiveness. Key actions under the Freshwater Fish Strategy include a national workshop to assist developing an action plan.

Recreational Fishing League, for youth aged 9-15 years, entered its second year. Nine teams of eight children and two coaches (in Dauphin, Lac du Bonnet, Morden, Shilo, St.Norbert, Swan River, Thompson, West St. Paul and Winnipeg), fished once a week for six weeks. Teams were awarded points by lengths of fish caught to determine a League winner. Results were posted on a Website to allow participants to follow League action. Partners included Manitoba Wildlife Federation, Mid-Canada Marine Dealers Association, Pure Fishing (Berkley Canada), and Recreation Connections. An expanded program is planned for 2002 with Manitoba Wildlife Federation as lead organization.

Second phase of the Fisheries Information Corporate Database was completed. The system will provide staff with efficient and effective access to fisheries information. Continued development will incorporate remaining database systems.

Fisheries Enhancement Initiative funds projects that protect or improve fish stocks or habitat. Three watershed inventories were funded: Valley River, Goudney Reservoir, and a collection of creeks in southwest (Bosshill, Stony, Nisco and Gopher). There were two site-specific projects: Brookdale Drain (Neepawa) involved fencing, controlled cattle crossings and offshore waterers to stabilize stream banks and reduce nutrient loading; Inglis Beach Dam Feasibility (Shell River) assessed fish passage options around Inglis Beach dam. Other enhancement projects included a fishway on Plum Creek, riffle development plans for upper Sturgeon Creek, and aeration units for Arrow, Patterson and West Goose Lakes. Two projects, at Birds Hill and in Duck Mountain, created or enhanced lake habitats for trout fisheries.

Northern Fishermen's Freight Assistance (NFFA) program assists marginal commercial operations by partial subsidization of transporting certain species from lakeside to Winnipeg. Due to significant increases in transportation costs affecting the viability of commercial fishing in the north, the

Department reviewed the program and approved additional funding for this year and next. The new funding cap is $410,000 (up from $250,000).

Watershed restoration projects are increasing as a comprehensive and multi-faceted approach to join user groups and agencies in restoring health and function to watersheds. This approach, modelled after successful Dauphin Lake and Little Saskatchewan River initiatives, is being applied to Upper Whitemud River Watershed, Brokenhead River, Valley River, selected Lake Manitoba north basin (east side) tributaries, and selected tributaries of Souris River.

Wildlife

- Youth Hunting Licence Package sales for deer and upland gamebirds continue to increase, to 3,400.
- Normal winter conditions in most areas; winter mortality was average on some deer ranges.
- Province-wide Sunday hunting introduced for upland gamebirds and waterfowl.
- Rifle deer season was lengthened in Deer Zones D and E, and is now three weeks everywhere.
- Populations of barren-ground caribou are stable or increasing; coastal herds are stable.
- Monitoring Bovine Tuberculosis (TB) in wild ungulates in Riding Mountain area continued for fifth year.
- Problem Beaver Control Program was expanded to include a Winter Subsidy Program.
- Urban Goose Working Group continued to investigate problems with geese in and around Winnipeg, with emphasis on airport safety.
- Two-day workshops by Fur Institute of Canada's Aboriginal Communications Committee, for community-based trapper-education instructors, included two Manitoba events, in Falcon Lake and Thompson.
- First draft of ***Partners in Flight Manitoba Strategic Plan*** was completed.
- Number of land-use proposals reviewed for wildlife habitat impacts decreased by 50% over last year.
- Volunteer-based Dragonfly Survey identified over 900 specimens (including seven species new to Manitoba) since 1999.
- Conservation Data Centre's computer biodiversity database grew to over 4,000 mapped priority species occurrences.
- Surveys of 22 rare plant species produced 79 new records and 61 updated occurrence records.
- Species at Risk fact sheet series continued. Products included folder to hold fact sheets, updated overview of ***The Endangered Species Act***, and new fact sheets for eight species: Burrowing Owl, Baird's Sparrow, Peregrine Falcon, Great Plains Ladies'-tresses, Great Plains Toad, Ferruginous Hawk, Western Spiderwort, and Western Silvery Aster.
- Continued involvement in Canadian National Vegetation Classification project, in partnership with NatureServe, government of Canada, and NGOs.
- 91 volunteers completed 57 survey routes for 2001 Nocturnal Owl Survey. Survey results reported at http://www.naturenorth.com/summer/creature/owl/owl_new/owl2001.html. Survey was significantly expanded in 2002 assisted by Manitoba Hydro, Delta Marsh Bird Observatory, and Partners in Flight Manitoba.
- Monitoring of radio-collared Woodland Caribou expanded in Atikaki–Berens range with collaring of additional animals.
- Workshop held to obtain public input on management, conservation and tourism development of snake dens in Narcisse–Inwood Area
- International Raptor Research Foundation Annual Meeting (Winnipeg) attracted 130 delegates from around world.
- Eastern Manitoba Recovery Action Group formed for *endangered* eastern loggerhead shrike; partners include Manitoba Cattle Producers Association, Ducks Unlimited, Manitoba Hydro, Portage Naturalists, City of Winnipeg, and landowners.

Terrestrial Quality Management

- Extensive monitoring of soil in City of Thompson to determine concentration of nickel and other elements emitted from INCO's smelter, including resampling study plots near Thompson to determine movement and fate of metals in Inco smelter emissions.
- Detailed assessment of plant community composition and abundance, and soil quality, of a wetland at Fort Whyte Centre.
- Detailed monitoring of surface water pools in Gull Lake Bog to determine impact of hydrological changes on vegetation.
- Evaluated revegetation success on newly constructed dykes, when seeded with native vs. agronomic species.

Pollution Prevention

- Prepared and released for consultation a new Regulation on Household Hazardous Waste Stewardship.
- Hosted an international Workshop on Extended Producer Responsibility (Winnipeg) in partnership with Environment Canada, for over 90 policy and stewardship program managers from across Canada, Europe, and the United States.
- Worked with Manitoba Golf Superintendents Association to improve chemical storage and handling at 31 golf courses.
- Co-ordinated development of operating guidelines for waste disposal grounds, composting operations, and waste transfer stations, to improve waste-management practices and environmental protection.
- Co-chaired Sustainable Development Procurement Guidelines Implementation Committee, under direction of Procurement Council, to oversee implementation of ***The Sustainable Development Act*** requirements for *Procurement Guidelines, Goals* and *Departmental Action Plans*.
- Organized Manitoba's first Green Fair during Canadian Environment Week, featuring environmentally sensitive products and services and showcasing corporate greening initiatives.
- Participated on steering team for Power Smart Eco-efficiency pilot program, targeting waste and energy reduction for business.
- Provided technical assistance for testing effectiveness and durability of water-saving dual-flush (three/six-litre flush) toilets.
- Provided $2.9 million under Sustainable Development Innovations Fund (SDIF) to support programs and projects that targeted development, implementation and promotion of environmental innovation and sustainable development. This included $530,000 for waste reduction and pollution prevention initiatives under Waste Reduction and Pollution Prevention Fund, a targeted allocation of SDIF.

Lands

Land Mapping Services

- Developed digital land parcel data for 7 communities, 3 full townships, and 2 complete parishes, adding 19,128 land parcels to Manitoba Land Information Utility (MLI) Data Warehouse, which now holds about 396,000 mapped land parcels. Significant parcel mapping of Red River corridor from Selkirk to Emerson was initiated to meet Departmental needs.
- Converted parcel inventory to ESRI shape file format to support Departmental need for this GIS format.
- Pilot project mapping Crown Land parcels.
- Development of a graphics-based township/quarter-section grid for unsurveyed territory in the north (about 6,500 townships).

Sustainable Resource Management

Northern Flood Agreement negotiations with Cross Lake First Nation are progressing. Grand Rapids Forebay negotiations continue, as do negotiations on other flood issues and on Treaty Land Entitlement.

The Branch lead Phase 1 of the East Side of Lake Winnipeg Broad Area Planning Initiative. This broad-area planning process includes active participation of First Nations, Aboriginal and local communities and other stakeholders to prepare an integrated, sustainable development plan for land and resources on the east side of Lake Winnipeg.

The Branch co-ordinated departmental input into review of the *Provincial Land Use Policies Regulation* under ***The Planning Act***.

The Branch co-chaired (with Manitoba Intergovernmental Affairs) a Steering Committee to plan implementation of recommendations of the Consultation on Sustainable Development Implementation (COSDI), a fundamental component of the sustainable development strategy. The Branch initiated consultation on amendments to ***The Environment Act*** as a part of COSDI implementation.

The Branch assisted in planning new directions for Canadian Council of Ministers of Environment.

The Branch led discussions on co-operative management of natural resources with Opaskwayak Cree Nation and West Region Tribal Council.

Other Branches were assisted in developing and amending legislation, such as amendments to ***The Environment Act***, on measures that may be required in a health emergency caused by mosquitoes capable of transmitting disease.

Environmental Assessment and Licensing

- *Mandatory Certification for Operators of Water and Wastewater Facilities* Regulation, to implement operator certification program, was developed.
- Provencher Paired Bridges Project: co-ordinated environmental assessment and licensing. Winnipeg filed a *Proposal* and an *Environmental Impact Statement* to replace the vehicular bridge and construct a separate pedestrian bridge. Public consultation and Technical Advisory Committee review was completed and an ***Environment Act*** *Licence* issued. Construction is underway.
- Flood Protection Works and Irrigation Development: participated in, and provided technical support for, several flood protection studies. Continued participation on Federal/Provincial Committees and Working Groups on planning and regulation of irrigation development.
- Hydro Projects: Manitoba Hydro filed proposals for the Wuskwatim generating station and associated transmission lines. Requirements of the *Canada-Manitoba Agreement On Environmental Assessment Co-operation* will ensure a thorough and comprehensive environmental assessment and review is conducted before any decision is made. Manitoba Hydro was issued an ***Environment Act*** *Licence* for construction of a new 115 kV switching substation in the Whiteshell Provincial Park near Brereton Lake. An ***Environment Act*** *Licence* was also issued to Manitoba Hydro for the construction of a high-voltage transmission line from Glenboro to North Dakota. Planning studies for a high-voltage transmission line along east side of Lake Winnipeg continued.
- Pesticide Regulations: Health Canada announced an *Action Plan for Urban Use Pesticides*, developed in partnership with provincial and territorial governments. A main objective is reducing pesticide use on lawns by applying Integrated Pest Management principles emphasising prevention, reduced-risk products, and application only when necessary. In addition, a Pesticide Classification Implementation Working Group has produced *A Proposal For A National Pesticide Classification System For Canada* to harmonize existing federal and provincial classification systems.

Aboriginal Relations

- Significantly increased the Department's level of commitment to involve Aboriginal people and their views and requirements for natural resources,
- Established an intra-departmental working group (Manitoba Conservation, Manitoba Justice, and Aboriginal and Northern Affairs) to develop *Policy and Procedure Directives on Consultation with Aboriginal People*;
- In conjunction with Manitoba Wildlife Federation, initiated a proactive approach to address disproportionate rate of firearm and hunting-related incidents involving First Nations people, through training of local people to be hunter and firearm safety instructors;
- Developed an insert respecting *Rights and Responsibilities of First Nations Fishers and Hunters* in 2002 *Anglers Guide* and *Hunting Guide,*
- Assisted development of Webpage on *Fishing, Hunting and Trapping; The Rights and Responsibilities of First Nations people,*
- Directly involved in resolving the Lake of the Prairies and Dauphin Lake domestic fishing dispute between Treaty and licensed fishers and West Region Tribal Council.
- Secretary for Aboriginal Resource Council (ARC) that serves as advisory body to the Department. ARC met seven times and developed recommendations on issues presented to them by Aboriginal people and the Department, including:
  - draft policy on construction of cabins as reasonable extensions of Treaty rights to hunt and fish for food (Sundown decision),
  - Co-management initiatives (Opaskwayak Cree Nation),
  - *Water Policy--A Strategic Plan for Manitoba,*
  - *Building a Sustainable Future: Proposed Changes to Manitoba's Environment Act and Report from the Chair* and *Environment Core Group 2002 Proposed Environment Act Amendments,*
  - Chronic wasting disease,
  - *Rights and Responsibilities of First Nations People,*
  - Draft *Phase I Preliminary Discussions-East Side Lake Winnipeg Broad Area Planning*.

Points saillants

Administration et finances

Ressources humaines

- Élaboration préliminaire d'un programme d'orientation destiné aux employés.
- Élargissement du programme de perfectionnement professionnel destiné aux Autochtones pour permettre à 16 employés du ministère d'y accéder.
- Élaboration et mise en œuvre d'un atelier de sensibilisation à la culture autochtone.
- Présentation d'un atelier de deux jours à 70 employés sur la planification de la relève et du remplacement.
- Présentation d'ateliers sur les relations du travail à plus de 100 gestionnaires et superviseurs, de concert avec la Direction des relations du travail, Secrétariat du Conseil du Trésor.

Systèmes et technologies de l'information

Le ministère a réalisé d'importants progrès dans le domaine de la surveillance et des inspections environnementales grâce à la mise en œuvre d'un nouveau système de gestion de l'environnement. Six modules de logiciels primaires ont été mis à la disposition de plus de 100 utilisateurs afin de leur permettre d'effectuer des inspections d'ordre environnemental et hygiénique, et de faire le suivi de l'application des lois.

Un nouveau logiciel, nommé ENFOR, est en cours d'adoption et de personnalisation. Celui-ci remplacera un système de rapports périmé actuellement en utilisation dans les bureaux régionaux et à la Direction générale, et permettra le suivi et la mise en application des lois, ainsi que l'enregistrement d'incidents. Le système, qui fonctionne sur Internet, sera mis à la disposition de plus de 200 agents de ressources naturelles et membres du personnel régional.

L'élaboration de l'Initiative des terres du Manitoba se poursuit dans le but de consolider, de cataloguer et d'entreposer toutes les données géospatiales SIG du gouvernement et de fournir un processus de distribution centralisé aux clients internes et externes. Dans le cadre d'un projet connexe, on a élaboré un système de justification des décisions en matière du SIG sur Internet, lequel servira à résoudre des questions liées aux inondations dans la vallée de la rivière Rouge.

On a élaboré un nouveau registre informatisé des terres domaniales, ainsi qu'un nouveau logiciel de comptabilité et on les met actuellement à l'essai. Le nouveau registre sera achevé l'an prochain et mis à la disposition de 50 utilisateurs.

Opérations régionales

Cinq cent trente-huit feux ont brûlé 78 913,4 ha, ce qui est légèrement supérieur à la moyenne à long terme de 525 débuts d'incendie, mais beaucoup inférieur à la moyenne de 358 425 ha brûlés. Le printemps a commencé avec des foyers d'incendie précoces en raison d'un hiver chaud et sec, mais les pluies printanières ont réduit les risques. Les incendies les plus graves se sont produits vers la fin juin et le début juillet dans le district de Lynn Lake, dans la région du Nord-Est, ce qui a nécessité l'envoi d'une équipe de sapeurs-pompiers sur les lieux.

Une équipe a été formée pour assurer la mise en application du ***Règlement sur la gestion des animaux morts et des déjections du bétail***. Les membres de l'équipe, y compris des agents de la protection de l'environnement et des ingénieurs en environnement, sont affectés à des postes dans les régions afin d'assurer une surveillance locale. Les premières responsabilités de l'équipe comprennent la tenue d'enquêtes sur les plaintes, l'inspection annuelle des installations d'entreposage de fumier viés par un permis, l'inspection de la construction des installations, et la mise en application des règlements sur la gestion des animaux morts et des déjections du bétail.

L'Office de l'eau potable a été établi à la suite du rapport du Comité consultatif sur l'eau potable. Cet office compte cinq postes : deux postes d'ingénieur, deux postes techniques et un poste administratif. L'Office sera chargé :

- de la coordination des activités effectuées dans le cadre du programme d'eau potable;
- de la communication de renseignements clairs et opportuns sur ces activités au grand public et aux autres administrations gouvernementales;
- de la mise en œuvre d'un programme d'eau potable efficace et rentable dans les six régions du ministère et coordonné depuis un bureau central;
- du maintien de sources d'approvisionnement en eau potable sécuritaires, adéquats, d'apparence agréable, et acceptables au grand public.

Le terrain de camping Pioneer Bay, situé dans le parc provincial du lac Clearwater, a été réaménagé pour la première fois depuis sa fermeture il y a 25 ans. Vingt-sept sites alimentés en électricité, ainsi que des toilettes et des douches modernes, ont été aménagés sur la plus belle plage du lac Clearwater.

Le Nelson River Sturgeon Co-Management Board poursuit ses efforts d'empoissonnement afin de réapprovisionner les cours d'eau. Quelque 20 000 alevins, élevés à l'écloserie de Grand Rapids, ont été introduits dans la rivière Nelson à quatre endroits différents. Il s'agit de quatre fois plus d'alevins que par le passé.

Une formation en extinction des feux de forêt a eu lieu, conformément aux normes nationales (CIFFC) afin d'assurer que les sapeurs-pompiers de première ligne sont agréés à ce niveau. Un agrément national permet aux sapeurs-pompiers de se rendre dans d'autres provinces pour combattre les incendies. Deux échanges de ressources interprovinciaux ont eu lieu : 12 membres du personnel de la région du Nord-Est ont été envoyés en Alberta et 11 en Colombie-Britannique.

Dans le parc provincial de Paint Lake, 43 sites de camping de passage, alimentés en électricité, ont été nivelés et agrandis afin de répondre aux besoins des campeurs ayant des véhicules de camping modernes de taille plus importante.

Dans le cadre du programme Alerte aux ours polaires à Churchill, on a éloigné 142 ours du village, ce qui représente le plus grand nombre d'ours jamais rencontrés. Il y avait 201 incidents dans la zone contrôlée, soit environ 25 % de plus que la moyenne. On peut attribuer l'augmentation du nombre d'ours capturés à une hausse dans le nombre de groupes familiaux, c'est-à-dire des femelles accompagnées d'oursons, dans la région.

Le ministre a annoncé le programme des mines abandonnées afin de répondre aux questions de santé environnementale liées à de nombreuses mines non remises en état dans le Nord. Le programme d'un million de dollars, qui s'étale sur quatre ans, de 2001 à 2005, est un programme complémentaire au programme de remise en état des mines abandonnées, annoncé par Industrie, Commerce et Mines Manitoba.

Le personnel de sécurité aquatique affecté aux plages de Birds Hill, Grand Beach et Winnipeg Beach évalue à 894 200 le nombre d'utilisateurs de ces plages, soit une moyenne quotidienne de 10 000 personnes par jour, dont 87 % à Grand Beach.

Conservation Manitoba collabore avec Hydro-Manitoba, Centra Gas et un groupe consultatif local pour réduire le nombre de couleuvres tuées sur la route provinciale 17, près des fosses de Narcisse. Le système de tunnels et de clôtures a été élargi et comprend maintenant dix ponceaux, distribués sur la majorité du territoire de migration, réduisant de 75 % le nombre de couleuvres tuées.

On a achevé la construction d'une pompe thermomécanique de 124 millions de dollars à la société Tembec à Pine Falls, ce qui modernisera la retrituration de la pâte, faite jusqu'ici par un procédé mécanique à l'aide de sulfite. Cela présente de nombreux avantages écologiques, y compris une réduction des gaz d'échappement et une amélioration de la qualité des effluents.

On a inauguré officiellement le parc provincial Pembina Valley.

On a achevé la première année du projet « Ours et abeilles » près d'Ethelbert. Six pourvoyeurs de chasse au gros gibier ont installé 20 clôtures électriques autour des ruchers souvent endommagés par des prédateurs. Le nombre d'ours nuisibles aux ruches et devant être tués a été réduit de manière importante. De plus, aucune clôture n'a été franchie par les ours et les revenus provenant de la production du miel ont augmenté.

L'incendie chimique survenu à la société Prairie Forest, à Minnedosa, a contaminé les sols de cuivre, de chrome et d'arsenic. Tous les contaminants ont été éliminés et on continue à surveiller les eaux souterraines.

Une société chargée de l'élimination de déchets dangereux a reçu une amende de 20 000 $ pour infraction à la ***Loi sur la manutention et le transport des marchandises dangereuses***. L'attribution de cette amende a clos une enquête commencée en 1999.

Gestion des cours d'eau

- On a achevé davantage de travaux de protection contre les inondations de 22,3 millions de dollars, destinés aux résidences, aux entreprises, à la construction de digues communautaires et à d'autres projets connexes, dans le cadre de l'Entente Canada-Manitoba concernant la construction d'ouvrages de protection contre les inondations.
- Deux projets importants visant à améliorer les ouvrages de protection contre les inondations dans la Ville de Winnipeg ont été étudiés : l'élargissement du canal de dérivation de la rivière Rouge, projet de 660 millions de dollars offrant une protection contre une crue qui risque de se produire une fois tous les 700 ans, et une structure de rétention à Sainte-Agathe, projet de 543 millions de dollars offrant une protection contre une crue qui risque de se produire une fois tous les 1 000 ans.
- Un document de discussion, intitulé *Water Strategy,* a mené à des mesures législatives exhaustives ainsi que des mesures de gestion locale des cours d'eau, établies en fonction des limites des bassins hydrauliques ou des aquifères. Un comité de direction a été mis sur pied pour gérer le projet.
- On a élaboré des plans d'aménagement des aquifères et des bassins hydrauliques visant à protéger les ressources et à les exploiter de manière durable.
- Des droits se chiffrant à quelque 104 millions de dollars ont été perçus et alloués à des mesures de stockage de l'eau et à la location de terres utilisées à des fins hydroélectriques.
- On a élaboré un nouveau site Web qui permet aux résidents et à ceux qui luttent contre les inondations d'obtenir, de manière interactive, des données à jour sur les endroits touchés. Ces données indiquent le niveau des eaux, l'élévation des bâtiments et des renseignements sur la construction de digues.
- Grâce à des méthodes de surveillance, de mise à l'essai, d'enregistrement et d'analyse des eaux souterraines, on a réussi à obtenir une meilleure compréhension de leur qualité, leur durabilité et leur susceptibilité à des polluants.
- On a amélioré l'efficacité et assuré la sécurité publique en remettant en état des ouvrages de protection importants et en assurant l'entretien - ouvrages tels que le canal de dérivation de la rivière Rouge et les digues de la rivière Assiniboine.
- On a coordonné la préparation d'un appel administratif devant le *Bureau of Reclamation* américain, appel portant sur sa décision d'aller de l'avant avec le Northwest Area Water Supply Project (lié au projet de la dérivation de la rivière Garrison, dans le cadre duquel l'eau du bassin de la rivière Missouri serait détournée vers le bassin de la baie d'Hudson).
- On a achevé le premier rapport technique dans le cadre de la stratégie sur la gestion de la nutrition. Le rapport contient une évaluation des tendances dans la concentration d'azote et de phosphore

réalisée à partir des échantillons pris à plus de 40 sites désignés pour la surveillance à long terme de la qualité de l'eau.

- On a fourni de nombreux conseils lors des audiences de la Commission de la protection de l'environnement, portant sur l'usine de transformation des pommes de terre exploitée par Simplot et sur l'amélioration de l'usine de traitement des eaux usées, située à Portage-la-Prairie.
- On a fourni des conseils techniques sur des questions transfrontalières, telles que l'évacuation des eaux de Devil's Lake et le projet de détournement des eaux de la rivière Garrison.
- On a poursuivi notre rôle de porte-parole du Manitoba en ce qui concerne un plan de gestion du bassin hydraulique du lac Shoal, source d'approvisionnement en eau de Winnipeg.

Parcs et zones naturelles

Le parc provincial Pembina Valley est le 75^e parc provincial et le premier parc créé en vertu de la ***Loi sur les parcs provinciaux*** de 1996. Toute sa superficie est désignée comme une zone protégée.

Sept nouvelles réserves protégées (Goose Islands, Grand Island, Kinwow Bay, Pelican Islands, Pemmican Island, Sturgeon Bay et Walter Cook Uplands Caves) ont été établies et seront maintenues pour une période de cinq ans. De plus, huit zones de gestion des espèces sauvages ont été protégées, en tout ou en partie.

On a achevé un plan de gestion pour le parc provincial de Grand Beach. On a poursuivi la planification en vue de l'aménagement du parc provincial Atikaki et de la rivière du patrimoine canadien Bloodvein et un plan de gestion pour le parc provincial Duck Mountain a été entrepris, ainsi que les premières consultations publiques.

On a procédé à l'élaboration d'un plan de gestion pour la rivière Hayes à l'aide de la mise sur pied d'une équipe chargée de la planification, et on a tenu les premières consultations publiques. Ce processus, qu'on prévoit continuera pour une période de deux ans, permettra d'obtenir la désignation de rivière du patrimoine canadien.

On a imprimé une brochure décrivant le programme de réserves écologiques et on a mis sur pied un site Web à cet effet.

On a poursuivi des discussions avec Parcs Canada, la Direction de la foresterie et Hydro-Manitoba, sur des configurations possibles de la composante de Long Point, qui fera éventuellement partie du futur Parc national des basses terres du Manitoba.

Parmi les projets d'élaboration et d'aménagement importants, mentionnons :

- l'aménagement des installations dans le parc provincial Pembina Valley;
- la conception d'une aire commerciale et d'immeubles à Grand Beach;
- la conception d'un terrain de camping avec centre d'équitation et une aire de fréquentation diurne au parc provincial de Birds' Hill;
- l'achèvement du centre d'accueil pour la West Hawk Lake Fish Hatchery (en collaboration avec Fish Futures);
- la conception du sentier South Whiteshell et d'un kiosque d'accueil à West Hawk Lake;
- l'aménagement des capacités de pêche à la ligne accessibles à Birds' Hill Lake, en collaboration avec la Manitoba Fly Fishers Association;
- le réaménagement du Prairie Golf Course et d'une aire de restauration dans le parc provincial Asessippi;
- un plan d'aménagement détaillé pour le secteur riverain du lac Falcon.

Des guides-interprètes à temps plein ont travaillé dans le cadre de programmes d'interprétation dans plusieurs parcs importants. Les guides-interprètes ont accueilli 81 070 visiteurs dans le cadre de programmes en plein air, dans des centres d'interprétation et dans des musées. On a élaboré des expositions pour des sentiers autoguidés dans le parc provincial de la plage de Saint-Ambroise (expositions bilingues) ainsi qu'au village Asessippi et à Winnipeg Beach.

Parmi les initiatives de commercialisation entreprises, mentionnons une stratégie de communication exhaustive avec Culture, Patrimoine et Tourisme Manitoba, la production d'une nouvelle brochure, le lancement de publicités pour le programme d'hôtes bénévoles sur les terrains de camping, l'élaboration et le lancement d'une campagne de publicité et de sensibilisation à l'intention des nouveaux Canadiens et Canadiennes, la réimpression du guide *Manitoba Magic: Provincial Parks Guide, Parks Reservation Service and Family Vacation Cabins*, des brochures sur le camping en automne, et une publicité d'une pleine page dans les répertoires *Woodall's North American Campground Directories.*

Environ 5,3 millions de personnes ont visité les parcs provinciaux. 5 815 sites de camping étaient disponibles, y compris quelque 4 291 sites de camping de passage, dont 2 653 ou 61,8 % sur réservation, en plus de 1 524 sites saisonniers. On a vendu 178 276 nuitées en camping de passage et 44 280 en camping saisonnier.

Le service de réservation des parcs a placé davantage de campeurs sur les sites par le biais de réservations et 32 739 réservations ont été inscrites, soit une hausse de 4 000 ou 13,8 % par rapport à l'année précédente. Trente-neuf terrains de camping offraient des services de réservation, ainsi que 25 sites de groupe et deux chalets.

Parmi les nouvelles initiatives, mentionnons une stratégie complète visant l'aménagement de sites de camping accessibles aux personnes handicapées, la conception et le lancement d'un programme d'hôtes bénévoles sur les terrains de camping, et le lancement d'un nouvel appel d'offres afin d'établir un centre d'appel qui se chargera de la réservation de sites dans les parcs.

Au nombre des projets majeurs réalisés, on trouve l'agrandissement des terrains de camping dans le parc provincial Whiteshell (à Big Whiteshell et au lac Brereton), l'agrandissement et le nivellement des terrains de camping dans le parc provincial de Paint Lake et l'ajout de prises d'alimentation aux terrains de camping situés dans les parcs de Bakers Narrows et Clearwater Lake. On a nivelé le fond du lac de natation à Birds' Hill en rajoutant du sable et on a aménagé des aires destinées aux groupes à Norris Lake et à Saint-Malo. Les bâtiments abritant les toilettes ont été améliorés dans l'ensemble du système. Le renouvellement de la couche de surface des chemins de Grand Beach a compris un élargissement des chaussées pour inclure une voie réservée aux bicyclettes. On a achevé des travaux supplémentaires sur le sentier pour bicyclettes entre les lacs Falcon et West Hawk. On continue d'accorder la priorité à l'amélioration des systèmes d'approvisionnement en eau et à l'amélioration de l'accès aux personnes handicapées. On a terminé l'agrandissement du bassin de stabilisation des eaux usées au lac Falcon, ainsi que la station de transfert des déchets solides à Hecla.

Changements climatiques

- Des représentants du ministère ont siégé au secrétariat du groupe de travail sur les changements climatiques du Manitoba, groupe présidé par M. Lloyd Axworthy. D'autres représentants ont siégé au groupe de travail interministériel qui travaillait à l'appui du groupe de travail sur les changements climatiques du Manitoba.
- Des représentants du ministère ont pris part à une approche nationale coopérative étudiant la possibilité de ratifier le protocole de Kyoto et d'autres ont fait des interventions au nom du Manitoba au sein du Comité national de coordination des questions atmosphériques.
- On a encouragé l'adoption des changements climatiques comme priorité de recherche dans le cadre d'une entente quinquennale avec l'Institut international du développement durable.
- On a appuyé l'adhésion au Collectif des Prairies pour la recherche en adaptation.

Foresterie

- On a travaillé avec Industrie, Commerce et Mines sur une réaction à l'enquête menée par le ministère du commerce américain sur la perception des droits compensateurs relativement à l'importation du bois d'œuvre canadien. La Direction de la foresterie a fourni des réponses recueillies de questionnaires, coordonné le processus d'exclusion des compagnies et participé à des discussions bilatérales afin de trouver une solution non juridique au conflit commercial.
- On a déposé à l'Assemblée législative le quatrième rapport d'une série de cinq rapports sur l'état des forêts au Manitoba et on a participé à la production du document *Next Steps: Priorities for Sustaining Manitoba's Forests*.
- On a protégé 18 520 ha de forêt commerciale (dépassant notre superficie cible de 18 000 ha) d'une infestation de la tordeuse des bourgeons de l'épinette au nord-est de Flin Flon.
- On a abattu 14 313 ormes qui étaient devenus infectés et dangereux en raison des faibles précipitations au cours de l'automne et de l'hiver.
- On a achevé une analyse de l'approvisionnement en bois afin d'établir la possibilité de coupe annuelle provisoire pour une scierie proposée par Tembec et le First Nations Limited Partnership. On a rédigé un contrat en matière du volume ligneux, afin de pouvoir soutenir les nouveaux stocks forestiers dans la zone de gestion forestière n° 1 et l'unité de gestion forestière n° 35.
- On a terminé la première année du projet à coûts partagés, valant plusieurs millions de dollars, avec la Louisiana Pacific Canada. Il s'agit d'un plan écologique d'inventaire et d'échantillonnage du volume ligneux.
- On a achevé un rapport analysant l'utilisation du bois au premier niveau et évaluant les répercussions sur la possibilité de coupe annuelle si l'on changeait la norme d'utilisation des cimes des arbres de 3 po à 4 po dans la zone de gestion forestière n° 2.

Pêcheries

Un site Web pour le développement durable a été conçu afin d'intégrer ces notions dans le nouveau *Cadre commun des résultats d'apprentissage en sciences, de la maternelle à la 8e année*, du Manitoba. Ce site constitue une première au Manitoba pour ce qui est de l'intégration de renseignements sur la pêche dans un programme d'études en science accessible par l'Internet. On a fait la promotion du site lors d'ateliers et de conférences s'adressant aux enseignants, dont l'atelier *Special Areas Group* (sciences). Le travail avec les éducateurs se poursuivra en vue d'élaborer des exercices pour les élèves de secondaire 1 à secondaire 4, qui seront incorporés au site à l'automne 2002.

À la Whiteshell Fish Hatchery, le centre d'accueil a été officiellement ouvert. Les interprètes du parc travaillent dans l'immeuble et ont donné des tournées à plus de 2 800 visiteurs. Le centre comprend une aire d'attente abritée, des toilettes et des fontaines d'eau potable. Les expositions d'interprétation comprennent, entre autres, des renseignements sur les espèces élevées à l'écloserie, sur le cycle de vie des poissons, sur l'utilisation de l'eau et sur l'histoire de l'écloserie.

La Direction générale a continué sa participation avec le Recreational Fishing Task Group et a copréside le National Freshwater Fish Strategy Task Group. Ces groupes, qui rendent compte au Conseil canadien des ministres des Pêches et de l'Aquaculture, élaborent des plans d'action concertés auxquels des intervenants sont invités à participer et qui maximisent l'efficacité et les effets utiles de la gestion. Au nombre d'actions d'importance prévues dans le cadre de la Freshwater Fish Strategy, mentionnons un atelier national consacré à l'élaboration d'un plan d'action pour la mise en œuvre de la stratégie.

L'exercice marque la deuxième année d'une ligue de pêche récréative destinée aux jeunes de 9 à 15 ans. Neuf équipes composées de huit enfants et de deux moniteurs (à Dauphin, Lac-du-Bonnet, Morden, Shilo, Saint-Norbert, Swan River, Thompson, West St. Paul et Winnipeg), sont allés pêcher une fois par semaine durant six semaines. Des points étaient attribués en fonction de la longueur des prises afin de déterminer le meilleur pêcheur de la ligue. Un site Web a été créé pour permettre aux participants de suivre l'évolution des équipes de la ligue. Parmi les partenaires, on trouve la Fédération de la faune du Manitoba, la Mid-Canada Marine Dealers Association, Pure Fishing (Berkley Canada) et Recreation Connections. On prévoit un programme élargi pour 2002, avec la Fédération de la faune du Manitoba comme organisme responsable.

On a terminé la deuxième phase de la base de données de la gestion globale des pêcheries. Ce système permettra au personnel d'accéder à des données à jour sur les pêcheries, et ce, de manière efficace. L'élaboration se poursuivra en 2002 afin d'y ajouter les données restantes provenant des autres bases.

L'initiative de mise en valeur de la pêche fournit un financement aux projets visant la protection ou l'amélioration du stock ou de l'habitat des poissons. On a accordé un financement à des projets de dénombrement des poissons dans trois bassins hydrauliques : Valley River, Goudney Reservoir et un nombre de ruisseaux dans le Sud-Ouest (Boshill, Stony, Nisco et Gopher). Parmi les projets spécifiques, notons : le projet du canal de drainage de Brookdale près de Neepawa, qui a compris la pose de nouvelles clôtures, la construction de passages contrôlés pour bétail et l'aménagement d'un système d'arrosage au-delà du rivage afin de stabiliser les rives et de réduire la charge en éléments nutritifs; l'analyse de faisabilité relative au barrage d'Inglis Beach (rivière River) a compris une étude des passages pour poissons contournant le barrage. D'autres projets d'amélioration comprenaient : un passage pour poissons sur le ruisseau Plum, des plans d'aménagement des rapides en amont du ruisseau Sturgeon Creek et des unités d'aération sur les lacs Arrow, Patterson et West Goose. Deux projets, situés à Birds' Hill et dans la région de Duck Mountain, ont permis la création ou l'amélioration d'habitats aquatiques, afin de permettre l'établissement de pêcheries de truite.

Le programme d'aide au transport pour les pêcheurs du Nord offre une aide aux exploitations commerciales marginales en subventionnant une partie des coûts liés au transport de certaines espèces du lac jusqu'à Winnipeg. En raison d'une hausse marquée des coûts du transport, qui entraîne des répercussions sur la viabilité de la pêche commerciale dans le Nord du Manitoba, le Ministère a procédé à un examen approfondi de ses programmes, et l'octroi de fonds supplémentaires a été approuvé pour 2000-2001 et 2001-2002. Le plafond de financement, qui était de 250 000 $, atteint maintenant 410 000 $.

Les projets de réhabilitation des cours d'eau prennent de l'ampleur et constituent une approche complète et dynamique visant à réunir les groupes d'utilisateurs et les organismes ayant pour but le rétablissement des cours d'eau. Cette approche, basée sur les initiatives réussies entreprises au lac Dauphin et à la rivière Little Saskatchewan, est actuellement mise en œuvre aux cours d'eau suivants : bassin hydraulique supérieur de la rivière Whitemud, la rivière Brokenhead, la rivière Valley, certains tributaires du bassin nord du lac Manitoba (côté est) et certains tributaires de la rivière Souris.

Faune

- La vente de trousses de permis de chasse pour les jeunes, qui comprend des permis pour chasser les cerfs et les gibiers à plumes des zones sèches, continuent à augmenter. En 2001-2002, on en a vendu 3 400.
- Les conditions normales de l'hiver dans la plupart des zones ont provoqué un taux de mortalité moyen dans certaines aires de distribution des cerfs.
- Sur l'ensemble du Manitoba, on a instauré la chasse aux cerfs et aux gibiers à plumes des zones sèches le dimanche.
- On a prolongé la saison de chasse aux cerfs à la carabine dans les zones D et E; la saison dure maintenant trois semaines dans toutes les zones.
- Les populations de caribous de la toundra sont stables ou à la hausse, tandis que celles des troupeaux côtiers sont stables.
- La surveillance de la tuberculose bovine (TB) chez les ongulés sauvages de la zone du mont Riding s'est poursuivie pour la cinquième année consécutive.
- Le programme de contrôle des castors a été élargi et comprend maintenant un programme de subventions en hiver.
- Le Groupe de travail sur les oies urbaines a continué d'enquêter sur les problèmes causés par les oies à Winnipeg et dans les environs, en mettant l'accent sur la sécurité des aéroports.

- Des ateliers de deux jours présentés par l'Institut de la fourrure du Canada et le Aboriginal Communications Committee à l'intention des instructeurs de piégeage communautaires, ont été tenus à Falcon Lake et à Thompson, au Manitoba.
- On a achevé la première ébauche de la stratégie manitobaine *Partners in Flight*.
- Le nombre de propositions d'aménagement de terrains examinées afin de déterminer les répercussions sur les habitats fauniques a baissé de 50 % par rapport à l'exercice précédent.
- Effectuées par des bénévoles depuis 1999, des enquêtes statistiques sur les libellules ont permis d'identifier 900 échantillons, y compris sept nouvelles espèces au Manitoba.
- La base informatisée de données sur la biodiversité du Centre de données de Conservation Manitoba s'est élargie et comprend maintenant plus de 4 000 occurrences prioritaires d'espèces reconnues.
- Des enquêtes sur 22 espèces végétales rares ont permis la production de 79 nouveaux documents et la mise à jour de 61 documents.
- On a continué de produire la série de feuillets de renseignements sur les espèces animales et végétales en péril. La trousse comprend maintenant un classeur qui permet de ranger les feuillets, un résumé à jour de la ***Loi sur les espèces en voie de disparition*** et des nouveaux feuillets sur les huit espèces suivantes : la chevêche des terriers, le bruant de Baird, le faucon pèlerin, la spiranthe des plaines, le crapaud des steppes, la buse rouilleuse, la tradescantie occidentale et l'aster soyeux.
- De concert avec NatureServe, le gouvernement du Canada et des organismes non gouvernementaux, on a continué de travailler au projet de Classification nationale de la végétation du Canada.
- Quatre-vignt-onze bénévoles ont analysé 57 routes dans le cadre du projet de surveillance des hiboux de 2001. Les résultats de l'analyse sont affichés à l'adresse suivante (anglais seulement) : http://www.naturenorth.com/summer/creature/owl/owl_new/owl2001.html. L'analyse a été élargie de manière importante en 2002, grâce à la participation d'Hydro-Manitoba, du Delta Marsh Bird Observatory et de Partners in Flight Manitoba.
- On a élargi la surveillance électronique du caribou des bois dans la zone Atikaki-Berens et on a posé des émetteurs sur d'autres animaux.
- On a tenu un atelier afin de recueillir les commentaires du public sur la gestion, la conservation et l'aménagement touristique des fosses de couleuvres dans la région de Narcisse et d'Inwood.
- Cent trente délégués provenant de tous les coins du monde ont assisté à l'assemblée annuelle de la International Raptor Research Foundation, tenue à Winnipeg en 2001.
- On a formé un groupe d'action pour le rétablissement de l'est du Manitoba et pour protéger la pie-grièche migratrice menacée d'extinction. Parmi nos partenaires, on trouve l'Association des éleveurs de bétail du Manitoba, Canards illimités, Hydro-Manitoba, les naturalistes de Portage, la Ville de Winnipeg et des propriétaires fonciers.

Gestion de la qualité des sols

- On a surveillé de près la qualité des sols dans la Ville de Thompson afin de constater la concentration de nickel et d'autres éléments qui s'échappent de la fonderie de la société Inco. Cette étude comprenait une nouvelle cueillette d'échantillons près de Thompson afin de connaître la zone de diffusion et l'aboutissement des métaux d'échappement.
- On a effectué une évaluation détaillée de la composition et de l'abondance des espèces végétales ainsi que de la qualité des sols dans un milieu aquatique au Fort Whyte Centre.
- On a surveillé de près les accumulations d'eau de surface dans la tourbière de Gull Lake, afin de constater les retombées des changements hydrologiques sur les espèces végétales.
- On a surveillé les résultats de la remise en végétation d'espèces indigènes comparée à celle d'espèces domestiques dans le cadre d'essais de revégétation sur des digues nouvellement construites.

Prévention de la pollution

- On a préparé et produit un document de consultation portant sur un nouveau règlement sur la gestion de déchets ménagers dangereux.

- On a tenu un atelier international sur la responsabilité étendue des producteurs, à Winnipeg, en collaboration avec Environnement Canada. Plus de 90 responsables de la gestion et de l'élaboration de politiques provenant du Canada, d'Europe et des États-Unis y ont assisté.
- De concert avec la Manitoba Golf Superintendents' Association, on a travaillé à l'amélioration de l'entreposage et de la manutention de produits chimiques à 31 terrains de golf.
- On a coordonné l'élaboration de lignes directrices pour les dépotoirs, les opérations de compostage et les usines de transfert d'eaux usées, afin d'améliorer les pratiques de gestion de déchets et la protection de l'environnement.
- On a co-présidé le comité pour la mise en œuvre des lignes directrices en matière de développement durable, sous la direction du conseil de l'approvisionnement, afin d'assurer la mise en application des dispositions nécessaires de la *Loi sur le développement durable* visant les lignes directrices d'approvisionnement, les objectifs et les plans d'action globaux.
- On a organisé la première « foire écologique » dans le cadre de la Semaine canadienne de l'environnement, mettant en vedette des produits écologiques et soulignant des initiatives écologiques adoptées par le secteur privé.
- On a participé au sein de l'équipe de direction d'un projet pilote en efficacité éco-énergétique, dont le but était de réduire les déchets et la consommation d'énergie dans les entreprises.
- On a fourni un soutien technique en ce qui a trait à la mise à l'essai de l'efficacité et de la robustesse de toilettes économiques à double chasse (trois ou six litres par chasse d'eau).
- On a fourni des subventions de 2,9 millions de dollars dans le cadre du Fonds des innovations de développement durable, afin d'appuyer des programmes et des projets visant l'élaboration, la mise en œuvre et la promotion d'initiatives écologiques et du développement durable. Ce chiffre comprend 530 000 $ versés aux initiatives de réduction de déchets et de prévention de pollution dans le cadre du fonds pour la réduction des déchets et la prévention de la pollution. Il s'agit d'un fonds spécial qui relève du Fonds des innovations de développement durable.

Terres

Service de cartographie

- Création de données numériques provenant de parcelles de terre dans sept communautés, trois villages et deux paroisses. Ainsi, 19 128 plans cadastraux ont été ajoutés au système de données cadastrales du Manitoba, lequel contient actuellement quelque 396 000 plans. On a effectué des prises de plans cadastraux du corridor de la rivière Rouge, de Selkirk à Emerson, afin de répondre aux besoins du ministère.
- Conversion des plans parcellaires au format ESRI afin de répondre aux exigences ministérielles en matière de ce format de données SIG.
- Projet pilote visant la prise de plans cadastraux des parcelles de terres domaniales.
- Élaboration d'une grille-image illustrant les sections de quart, servant à prendre des plans cadastraux des villages dans les territoires non cartographiés du Nord (environ 6 500 villages).

Gestion des ressources durables

Les négociations autour de la Convention sur l'inondation des terres du Nord avec la Première nation du lac Cross progressent. Les négociations autour du réservoir de Grand Rapids se poursuivent, comme d'ailleurs celles portant sur d'autres questions relatives à l'inondation et sur les droits fonciers issus des traités.

La Direction était à la tête de la première phase de l'initiative majeure visant la gestion de la rive est du lac Winnipeg. Ce processus de planification à grande envergure comprend la participation active des premières nations, des communautés locales et autochtones et d'autres intervenants. Il s'agit d'élaborer un plan d'aménagement intégré et durable pour les terres et les ressources situées à l'est du lac Winnipeg.

La Direction a coordonné la participation du ministère dans le cadre du ***Règlement sur les politiques provinciales d'occupation des sols*** en vertu de la ***Loi sur l'aménagement du territoire***.

La Direction générale a coprésidé, avec Affaires intergouvernementales Canada, un comité directeur afin de planifier l'adoption des recommandations émises lors d'une consultation sur la mise en œuvre du développement durable (COSDI), qui est une composante fondamentale de la stratégie de développement durable. La Direction générale a apporté des modifications majeures à la ***Loi sur l'environnement***, comme partie intégrante des recommandations de la COSDI.

La Direction générale a contribué à la planification d'orientations nouvelles pour le Conseil canadien des ministres de l'Environnement.

De concert avec la Opaskwayak Cree Nation et le West Region Tribal Council, la Direction a mené les discussions sur la gestion coopérative des ressources naturelles.

D'autres directions ont reçu de l'aide sur le plan de l'élaboration et de la modification de la législation, afin de modifier, par exemple, la ***Loi sur l'environnement***, pour y inclure des mesures qui risquent d'être nécessaires dans le cas d'une situation d'urgence où une maladie est transmise par des moustiques.

Évaluations environnementales et permis

- Un règlement d'accréditation obligatoire pour les opérateurs d'installations de traitement des eaux et des eaux usées a été élaboré afin de mettre en œuvre le programme d'accréditation obligatoire pour les opérateurs d'installations de traitement des eaux et des eaux usées.
- Projet de ponts jumelés du boulevard Provencher : assuré la coordination de l'évaluation environnementale et de l'attribution de permis. La Ville de Winnipeg a soumis une proposition et un énoncé sur l'impact environnemental pour remplacer le pont routier et construire une passerelle à piétons distincte. Les consultations publiques et l'examen du comité consultatif technique ont été achevés; un permis en vertu de la *Loi sur l'environnement* a été délivré en mai 2001. Les travaux de construction se poursuivent.
- Travaux de protection contre les inondations et projets d'irrigation : participé et accordé un soutien technique à plusieurs études portant sur la protection contre les inondations. Cette participation s'est poursuivie par une présence au sein des comités fédéraux-provinciaux et des groupes de travail sur la planification et la réglementation de projets d'irrigation.
- Projets hydroélectriques : Hydro-Manitoba a soumis des propositions pour la centrale hydroélectrique de Wuskwatim et les lignes de transport d'énergie connexes. Les exigences de l'*Entente Canada-Manitoba d'harmonisation de l'évaluation environnementale* permettront d'assurer qu'une évaluation écologique exhaustive et approfondie, ainsi qu'une révision, sont effectuées avant qu'une décision ne soit prise. On a délivré un permis à Hydro-Manitoba en vertu de la *Loi sur l'environnement* pour la construction d'un sous-poste de sectionnement de 115 kV situé dans le parc provincial du Whiteshell près du lac Brereton. On a également délivré un permis à Hydro-Manitoba en vertu de la *Loi sur l'environnement* pour la construction d'une ligne de transport à haute tension allant de Glenboro au Dakota du Nord. On a continué les études de planification pour une ligne de transport d'énergie à haute tension le long de la rive est du lac Winnipeg.
- Réglementation sur les pesticides : Santé Canada a annoncé la mise en place d'un *Plan d'action pour les pesticides en milieu urbain*, élaboré en partenariat avec les gouvernements des provinces et des territoires. L'un des objectifs principaux consiste à réduire l'utilisation des pesticides sur les gazons, en adoptant les principes d'une gestion intégrée des pesticides qui met l'accent sur la prévention, sur l'utilisation des produits à risque réduit et sur le recours aux pesticides seulement lorsque besoin est. Par ailleurs, un Groupe de travail sur les critères pour la classification des pesticides a rédigé une proposition pour un système national de classification des pesticides, afin d'harmoniser les systèmes de classification provinciaux et fédéraux existants.

Relations avec les Autochtones

- On a renforcé de manière importante l'engagement du ministère envers la participation des Autochtones et la considération de leurs opinions et besoins en matière de ressources naturelles.

- On a mis sur pied un groupe de travail interministériel (Conservation Manitoba, Justice Manitoba et Affaires autochtones et du Nord Manitoba) afin d'élaborer une ébauche des politiques et des procédures à adopter lors de la consultation avec les Autochtones.
- De concert avec la Fédération de la faune du Manitoba, on a adopté une approche proactive afin de résoudre la question du nombre disproportionné d'accidents subis par les Autochtones - accidents liés à la chasse et aux armes à feu. L'approche vise à apprendre aux personnes de la communauté à enseigner la sécurité de la chasse et des armes à feu.
- On a élaboré un dépliant intitulé *Rights and Responsibilities of First Nations Fishers and Hunters*, qu'on a inséré dans les guides de pêche et de chasse.
- On a participé à l'élaboration d'une page Web intitulée *Fishing, Hunting and Trapping; The Rights and Responsibilities of First Nations people*.
- On a participé directement à la résolution d'une dispute entre les Autochtones visés par un traité et les pêcheurs titulaires d'un permis, dans la région du réservoir de Shellmouth (Lac des prairies) et du lac Dauphin.
- Le secrétariat du Aboriginal Resource Council (ARC) agit en tant que conseiller au ministère. L'ARC a rencontré des représentants du ministère à sept reprises et a élaboré des recommandations sur les questions touchant les Autochtones et le ministère, notamment :
  - une ébauche d'une politique sur la construction de cabines dans le cadre des droits accordés par un traité en matière de pêche et de chasse (décision coucher de soleil);
  - des initiatives de gestion coopératives (Opaskwayak Cree Nation);
  - un politique en matière d'eau – stratégie pour le Manitoba;
  - Bâtir un avenir durable : des modifications proposées à la ***Loi sur l'environnement*** du Manitoba et le rapport du président du groupe de travail principal sur l'environnement – modifications proposées à la ***Loi sur l'environnement*** en 2002;
  - la tremblante du mouton;
  - les droits et responsabilités des Autochtones;
  - une ébauche d'un cadre de discussions préliminaires sur l'aménagement de la rive est du lac Winnipeg.

Sustainable Development Integration

The Department has managed, protected, planned, and administered use of natural resources and the environment since 1930. The foundational goal was to ensure conservation of resources, that is, their wise and efficient use without harm, not inconsistent with one of the foundations of sustainable development. Consequently, what the Department does today, and what it has always done, conform, in part, with some of the goals, *Principles* and *Guidelines* of Sustainable Development. Traditionally, the mandate of the Department is **Stewardship** of natural resources and the environment for present and future generations, that is, Principle # 2.

Under *The Sustainable Development Act*, each Department is required to integrate into its annual reporting process, information about progress made in incorporating sustainable development into its activities. The following highlights are a sample of those things the Department has done to incorporate or continue its compliance with most *Principles* and *Guidelines* of Sustainable Development.

Principles of Sustainable Development

Integration of Environmental and Economic Decisions.

To meet the intent of Principle # 1, the Department must ensure:

(a) its economic decisions and activities adequately reflect environmental, human health and social effects; and

(b) its environmental and health decisions, activities and initiatives adequately take into account economic, human health and social consequences.

Highlights

- Sustainable Resource Management Branch convened a broad-based stakeholder and interest group advisory committee and coordinated review of proposed changes to ***The Environment Act***. The intent of changes to the environmental assessment process, among other things, was to move towards sustainability assessments, where all the economic, environmental, social, and health effects of a development proposal are considered in an integrated decision-making process.

Shared Responsibility and Understanding

To meet the intent of Principle # 3, the Department must ensure:

(a) it takes responsibility for sustaining the economy, the environment, human health and social well-being and be accountable for its decisions and actions in a spirit of partnership and open cooperation with all Manitobans;

(b) its decisions and activities reflect Manitoba's shared common economic, physical and social environment;

(c) it understands and respects differing economic and social views, values, traditions and aspirations in its decision making and activities; and

(d) it considers and reflects in its decisions and activities the aspirations, needs and views of the people of the various geographical and ethnic groups in Manitoba, including aboriginal peoples to facilitate equitable management of Manitoba's common resources.

Highlights

- Sustainable Resource Management Branch participated in discussions with Opaskwayak Cree Nation, and completed a memorandum of understanding (MOU) to develop an agreement for the co-operative management of natural resources. Discussions continued on the MOU previously signed with West Region Tribal Council, on an agreement for co-management of Dauphin Lake fishery. Discussions were also held with the Manitoba Métis Federation on co-management of fishing and wildlife hunting and trapping.
- The Department, Wildlife and Ecosystem and Protection Branch approved furbearer management policy and procedure directives which recognize and provided opportunity for trapper input into

decision-making and management of the fur resource. Decision-making will take into account local trapping practices and traditional ecological knowledge.

- The Department initiated an Aboriginal Employment Strategy in partnership with Aboriginal communities to develop employment opportunities in the Department. The Department committed resources and an employment co-ordinator to recruit Aboriginal applicants and met the government's commitment to an employment equity policy intended to remove discriminatory barriers and ensure equality of treatment in the Civil Service, with an overall Aboriginal employment goal of 10% over the next several years.

Prevention

To meet the intent of Principle # 4, the Department must ensure:

(a) its activities and decisions and legislation anticipate, and prevent or mitigate, significant adverse economic, environmental, human health and social effects, and

(b) it has particular careful regard to its decisions and actions whose impacts are not entirely certain but which, on reasonable and well-informed grounds, appear to pose serious threats to the economy, the environment, human health and social well-being.

Highlights

- The Department developed the *Mandatory Certification for Operators of Water and Wastewater Facilities* Regulation to anticipate and prevent risks to public health which may arise if operators are improperly trained in operation of public drinking water and wastewater facilities.
- The Department partnered with provincial and territorial governments and Health Canada in the development of an *Action Plan for Urban Use Pesticides*. Its main objective is to reduce pesticide use on lawns by applying Integrated Pest Management principles emphasizing prevention, reduced-risk products, and pesticide application only when necessary.

Conservation and Enhancement

To meet the intent of Principle # 5, the Department must ensure:

(a) its activities and decisions maintain the ecological processes, biological diversity and life-support systems of the environment;

(b) renewable natural resources are harvested on a sustainable yield basis;

(c) those persons who have been allocated provincial resources make wise and efficient use of them; and

(d) its programs and activities enhance the long-term productive capability, quality and capacity of natural ecosystems.

Highlights

- Forestry Branch has completed a detailed wood supply analysis to establish interim Annual Allowable Harvest levels for a sawmill complex proposed by Tembec and the First Nations Limited Partnership in Forest Management Licence Area 1 and Integrated Wood Supply Areas 1 and 2.
- Fisheries Branch continued to administer the Fisheries Enhancement Initiative that provided funds to protect or improve fish stocks or habitat. Twenty-four projects were approved, including watershed inventories, fishways, riffle development plans, instillation of aeration units, and education and awareness projects.
- Parks and Natural Areas Branch continued in the protection of representative natural areas for the purpose of maintaining biological diversity and conserving ecological integrity by establishing the Pembina Valley Provincial Park (180 hectares), seven park reserves which total 27,300 hectares, and adding eight other wildlife management areas to the network of protected areas, covering about 14,100 hectares.

Rehabilitation and Reclamation

To meet the intent of Principle # 6, the Department must ensure:

(a) it actively endeavours to repair or have repaired damage to, or degradation of, the environment; and

(b) the Department builds into its future allocations of, and plans for, use of resources the requirement to rehabilitate and reclaim areas and resources which may be damaged.

Highlights

- The Department re-introduced sturgeon into a reach of Assiniboine River between Shellmouth Dam and Portage Diversion. Initiated in 1996, stocking has continued annually. Users co-operated in re-establishing the species and assisted in funding feeding of fingerlings at the hatchery. Sturgeon are managed on catch-and-release only basis.
- The Department and industry carried out forest renewal on 11,741 hectares of Crown land. Most of the area was planted with some 16,000,000 trees, with the non-planted areas scarified to promote natural regeneration.
- The Orphan Mine Site Program was initiated to address environmental health issues associated with a number of non-rehabilitated mines sites in the north. This program is complementary to the Orphan Mine Site Rehabilitation Program of Manitoba Industry, Trade and Mines.

Global Responsibility

To meet the intent of Principle # 7, the Department must ensure:

(a) it thinks globally when acting locally, recognizing there is economic, ecological and social interdependence among provinces and nation; and

(b) it works co-operatively, within Canada and internationally, to integrate economic, environmental, human health and social factors in decision making while developing comprehensive and equitable solutions to problems.

Highlights

- Geomatics and Remote Sensing Branch partnered with the Government of Canada in the *Canadian Forest Service-Earth Observation for Sustainable Development of Forests* initiative, to create, with advanced space technologies, the best forest monitoring system in the world to meet Canada's national and international commitments. Remote sensing will be the primary information tool in monitoring sustainable development of forests and changes in forest carbon stocks, addressing the forest information needs of the *Kyoto Protocol*, the *International Convention on Biological Diversity*, and the *Framework Convention on Climate Change*.

Guidelines for Sustainable Development

Efficient Uses of Resources

To meet the intent of Guidelines # 1, the Department must:

(a) encourage and facilitate development and application and use of systems for proper resource pricing, demand management and resource allocation, together with incentives to encourage efficient use of resources; and

(b) employ full-cost accounting to provide better information for decision makers.

Highlights

- Water Management Branch continued implementation of water allocation plans for Winkler, Assiniboine Delta and Oak Lake Aquifers and the Agassiz Irrigation Association area.
- Pollution Prevention Branch participated in the Power Smart Eco-efficiency pilot program which targeted waste and energy reduction for business.

Public Participation

To meet the intent of Guideline # 2, the Department must:

(a) use and establish forums which encourage and provide opportunity for consultation and meaningful participation in departmental decision making processes by Manitobans;

(b) provide due process, prior notification and appropriate and timely redress for those adversely affected by departmental decisions and actions; and

(c) strive to achieve consensus amongst citizens and the department with regard to decisions affecting them.

Highlights

- Climate Change Branch assisted Manitoba Climate Change Task Force in holding public forums to discuss climate change, which provided opportunities for public consultation and meaningful participation in developing recommendations to government on policy for addressing adverse effects of climate change and reducing global warming.
- Aboriginal Relations Branch established an inter-departmental working group to develop policy and procedure directives for consultations with Aboriginal peoples.

Access to Information

To meet the intent of Guideline # 3, the Department must:

(a) improve and refine economic, environmental, human health and social information related to natural resources and the environment; and

(b) provide and promote the opportunity for equal and timely access to its information by all Manitobans.

Highlights

- Forestry Branch completed its ***Five Year Report to the Legislature on the Status of Forests in Manitoba*** (1996–2001).
- Climate Change Branch developed Websites to provide information and advice to the public on its programs and energy conservation advice. A new climate change Website was under development to provide access to information on potential impacts of climate change and what can be done to reduce these impacts through mitigation and adaptation.
- Forestry Branch added new pages to its Website to provide up-to-date information on tree disease and insect outbreaks and staff worked with Manitoba Forestry Association to deliver a three-day workshop for teachers and partnered in the environmental education competition, Envirothon.
- Water Management Branch initiated work on the Assiniboine River Study which will gather information to ensure existing and future development along the river occur in a sustainable manner.
- Water Management Branch continued with its Nutrient Management Strategy which will lead to more appropriate water quality objectives for prairie streams and lakes and its ambient water quality monitoring activities continued at over 50 sites. Soil and groundwater investigations and monitoring continued at study sites to evaluate potential impacts of long-term application of animal manure as a fertilizer.

Integrated Decision Making and Planning

To meet the intent of Guideline # 4, the Department must:

(a) encourage, facilitate, establish, and ensure its decision-making and planning processes are efficient, timely, accountable and cross-sectoral; and

(b) incorporate into its decision-making and planning an inter-generational perspective of future needs and consequences.

Highlights

- Sustainable Resource Management Branch continued discussions with First Nations, business, environmental groups, and various stakeholders on establishment of an integrated sustainable development land-use planning and decision-making system for the east side of Lake Winnipeg.
- Forestry Branch, through its Forest Practices Initiative, in consultation with other Branches and industry, worked towards establishing best-practices management guidelines, guidebooks on protecting softwood understorey in hardwood stands, forest road management, and pre-harvest surveys. These guidelines link policy, regulations, operations, and inspections.
- Water Management Branch initiated a Water Strategy which will lead to comprehensive water legislation and locally-driven water management based on watershed or aquifer boundaries.
- Forestry Branch assisted developing the forest strategy *Next Steps: Priorities For Sustaining Manitoba's Forests.* The strategy outlines five priorities for sustaining Manitoba's forests: increasing scientific and traditional knowledge, enhancing forest stewardship, increasing co-management, employment and economic development opportunities for Aboriginal communities and updating and improving legislation and guidelines.

Waste Minimization and Substitution

To meet the intent of Guideline # 5, the Department must:

(a) encourage and promote, within and outside of the Department, the development and use of substitutes for scarce resources where such substitutes are both environmentally sound and economically viable; and

(b) reduce, reuse, recycle and recover the products the Department uses in its daily operations and encourage, promote and facilitate the 4 Rs in society generally.

Highlights

- Pollution Prevention Branch assisted development of Sustainable Development Procurement Guidelines which were adopted by government. A Sustainable Development Implementation Committee, co-chaired by the Branch, developed government-wide procurement goals which all government departments are required to meet through the preparation and implementation of Departmental Action Plans.
- The Department began preparation of its Departmental Sustainable Development Procurement Action Plan.
- Pollution Prevention Branch co-ordinated preparation of operating guidelines for waste disposal grounds, composting operations and waste transfer stations to improve waste management practices and environmental protection.
- Contract Management Section incorporated use of "green" materials/products in all departmental tender documents, which will result in "greener" services/products and waste-disposal practices provided by contractors. The Branch promoted use of "green" materials in its day-to-day operations by using recycled paper, toner, etc., along with producing two-sided reports and recycling of all superfluous paper.
- Climate Change Branch, Air Quality Section participated in a multi-material recycling program that collected white and non-white paper, cardboard, aluminium and steel cans, and plastic. The Section used recycled paper in its photocopiers and printers. Energy Section sent recycled paper for destruction at Manitoba Record Centre where it was recycled as tissue paper. Co-location of both Sections lead to a common multi-material recycling program and use of recycled paper. The Branch reuses paper when possible in printers and double sided photocopying is used when possible.

Research and Innovation

To meet the intent of Guideline # 6, the Department must:

(a) encourage and assist in the research, development, application and sharing of knowledge and technologies which further economic, environmental, human health and social well-being.

Highlights

- Pollution Prevention Branch continued to administer the Sustainable Development Innovations Fund (SDIF) which supports development, implementation and promotion of environmental innovation and sustainable development projects by local governments, industry, community and youth groups, Aboriginal organizations, and First Nation communities.
- Climate Change Branch administered the Manitoba Climate Change Action Fund, which encourages and assists organizations and individuals with grants to address issues of Climate Change through such mechanisms as education and outreach; technical innovation; energy efficiency, and alternative or renewable energy.
- Forestry Branch co-operated on a study with University of Winnipeg Centre for Interdisciplinary Forest Research and Tembec to compare effects of harvest and natural disturbance on biodiversity, using arthropod indicators.
- Forestry Branch, in co-operation with Canadian Forest Service and Manitoba Industry Trade and Mines, hired a science-and-tech intern to develop primary and secondary wood-using industries directories. Both directories were completed and the primary industry directory was published. The partners and intern delivered a seminar for 170 participants on marketing aspects of forest products certification.

Chapter 2

Introduction

Manitoba Conservation protects, conserves, manages, and sustains development of forest, fisheries, wildlife, water, energy, and Crown and Park land resources, protects environmental integrity, and ensures a high level of environmental quality, for present and future generations. Through integrated management of these resources, the Department is the lead agency for providing outdoor recreational opportunities for Manitobans and visitors.

The Department is a major contributor to the economic development and wellbeing of the Province, particularly at the community or regional level, through resource-based harvesting operations, and in co-operation with other Departments responsible for agriculture and tourism.

Providing for domestic use, and protecting people and property from floods, wildfires and adverse effects of other natural occurrences, are also major roles. The Department administers legislation and regulations protecting the environment and public health, participates in approval, licensing and appeals for industrial development activities, administers waste reduction and pollution prevention activities, and monitors environmental quality. The Department also educates Manitobans about benefits and opportunities in energy efficiency and sustainable development of the petroleum industry.

Integrated operations of the former Departments of Natural Resources and Environment was completed at all levels. The Department's structure at 31 March 2002 consisted of four Divisions: Corporate Services (comprised of Administration and Finance and Conservation Support Services), Regional Operations, Conservation Programs, and Environmental Stewardship.

New boundaries for Regional Operations were finalised, creating a sixth Region (Red River), which incorporated parts of the former Central (now Interlake), Eastern and Western Regions. Water Quality Management Section was added to the Water Branch. These changes contribute to the Department's ability to foster implementation of the principles and practices of sustainable development, and to monitor Manitoba's environment to detect problems and respond constructively to concerns with new knowledge.

An Aboriginal Relations Branch was created to develop and maintain a positive relationship with Aboriginal peoples and to ensure that the Department's operations and allocations properly and fully meet their needs.

Much of the work of the former Energy Programs and Policy Section was transferred to Manitoba Industry, Trade and Mines and to Manitoba Hydro.

Introduction

Conservation Manitoba protège, conserve et gère la forêt, les pêcheries, la faune, l'eau, l'énergie et les ressources foncières de la Couronne et des parcs en plus d'en appuyer le développement, protège l'intégrité environnementale et assure un haut degré de qualité de l'environnement pour les générations présentes et futures. Préconisant une gestion intégrée de ces ressources, le Ministère est l'organisme de référence lorsqu'il s'agit de proposer aux Manitobains, aux Manitobaines et aux visiteurs des activités récréatives extérieures.

Le Ministère contribue grandement au développement économique et au bien-être de la province, particulièrement au sein des communautés ou à un niveau régional, par des activités de récolte liées aux ressources naturelles, et en collaboration avec les autres ministères responsables de l'agriculture et du tourisme.

L'adoption de mesures touchant l'utilisation domestique des ressources ainsi que la protection des personnes et de leurs propriétés contre les inondations, les incendies de forêt et les effets néfastes d'autres occurrences naturelles, comptent aussi parmi les rôles clés que le Ministère est appelé à jouer. Il administre l'ensemble des lois et des règlements relatifs à la protection de l'environnement et à la santé publique, participe à l'approbation et à l'attribution de permis ainsi qu'aux appels en ce qui a trait aux activités de développement industriel, gère les activités de réduction des déchets et de prévention de la pollution et surveille la qualité de l'environnement.

L'intégration des activités des anciens ministères des Ressources naturelles et de l'Environnement a été complétée à tous les niveaux. Le 31 mars 2001, la structure du Ministère comprenait quatre divisions : les Services ministériels (qui comprennent l'administration et les finances et les services de soutien à la conservation), les Opérations régionales, les Programmes de conservation et la Gestion de l'environnement.

Le nouveau périmètre des Opérations régionales a été défini et comprend maintenant une sixième région (Rivière Rouge), qui réuni des parties de l'ancienne région du Centre (maintenant appelée Entre-les-Lacs), de la région de l'Est et de la région de l'Ouest. On a ajouté la Section de la gestion de la qualité de l'eau à la Direction des eaux. Ces changements contribuent à renforcer les compétences du ministère quant à la mise en oeuvre des principes et des pratiques du développement durable, et à contrôler l'environnement au Manitoba afin de détecter les problèmes et répondre aux questions de manière constructive grâce à l'acquisition de nouvelles connaissances.

On a mis sur pied la Direction des relations avec la communauté autochtone afin de développer et d'entretenir une relation positive avec les peuples autochtones et de garantir que les opérations et les allocations du ministère répondront convenablement et entièrement à leurs besoins.

Les activités liées à l'économie d'énergie de l'ancienne direction de l'énergie sont maintenant la responsabilité d'Hydro-Manitoba.

Administration and Finance

Provides executive management of programs and management services, including financial, human resource, computer, and administrative support.

Minister's Salary

The Minister's Salary provides the Minister with additional compensation to which an individual appointed to the Executive Council is entitled.

Table AF.1
12.1(a) Minister's Salary

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	28.0	1.00	28.1	(0.1)	

Executive Support

This area comprises support staff in the Offices of the Minister and Deputy Minister of Conservation.

The purpose of Executive Support is to develop, implement and oversee policies and programs which are designed to attain, over the long term, the goals set out in the Department's role and mission statement, advise the Minister on matters relating to the Department, provide policy direction for departmental programs, co-ordinate departmental communications activities and initiatives, and provide administrative support for the Offices of the Minister and Deputy Minister.

Table AF.2
12.1(b) Executive Support

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	444.6	8.00	458.8	(14.2)	
Total Other Expenditures	123.5		123.8	(0.3)	

Corporate Services

The Branch provides financial, human resource, administrative, information technology support, warehousing, and library services to ensure appropriate utilization of resources and effective delivery of programs, in compliance with policies and procedures.

Financial Services include processing of revenues and expenditures in accordance with legislative, Treasury Board, and departmental requirements, estimates preparation, accountable advances, expenditure monitoring and reporting, cashflow forecasting, license administration and asset management.

Administrative Services include annual report preparation, vehicle co-ordination, parking administration, central inventory, delegated financial signing authorities, employee housing, records management co-ordination, freedom-of-information management, French language services co-ordination, warehousing, and risk management and workplace safety and health.

Information Technology services include administration, planning, project management, application planning and operational support, management and co-ordination of external resources, and co-ordination of Desktop Management.

The Conservation and Environment Library delivers library and information services to staff of Manitoba Conservation, Environment Canada in Winnipeg, Canadian Council of Ministers of the Environment, and the public.

The focus continues to be on integrating the library collections owned by Conservation and consolidating the holdings in a single internet-accessible library database. Approximately 8,000 records were added to the library database over the year. Library staff provide a variety of services in response to approximately 3,000 general information requests from staff and the public, in addition to co-ordinating interlibrary loans, current awareness services, and periodical subscriptions.

The Department is continuing with its Records Management Review Program. A complete Departmental review will be continuing over next year. Over 2,020 boxes of inactive files were transferred to storage/disposition to Provincial Records Center/Archives.

76 requests under **The Freedom of Information and Protection of Privacy Act** were actioned.

The Department fully complies with legislation in respect of notification, use of personal information, and updating of personal-information banks.

The Department has continues to implement a new French Language Services Plan to reflect current operations and in keeping with the *Chartier Report* on French language services. Translation of documents and the Website continues.

Risk Management Program assists staff to identify situations that could disrupt programs or result in unexpected losses, assists evaluating hazards with programs and facilities, and assists developing and priorizing risk control to reduce or eliminate hazards. Liability incidents involved payment of $6,490 and claims for property damages were reported with values totaling $131,799. Total building/property evaluations reported for insurance purposes were $110,081,500.

Departmental warehouse is equipment/supply storage and mobilization point for Branches and Fire Operations Centre. In emergencies, such as fire and flood, it becomes logistical support base for all equipment.

Disposition of 716 fleet and Department vehicles was administered.

Regionalized Workplace Safety and Health/Hearing Conservation programs resulted in 1,376 staff participating in WSH courses and 684 staff screened in the Hearing Conservation Program. Risk Management field inspections of sites and capital works were carried out and all reported public accidents/incidents were reviewed.

Table AF.3

12.1(c) Corporate Services

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	616.9	13.50	655.0	(38.1)	
Total Other Expenditures	724.0		762.9	(38.9)	

Financial Services

The Branch provides financial services to the Executive, program managers and operational staff, undertakes comptrollership, ensures that the public has convenient access to hunting and fishing licences, and *Park Vehicle Permits*. The Branch co-ordinated departmental implementation of financial, procurement and asset management components of the new *SAP* accounting system.

Licensing Section managed a network of 839 private and 124 departmental Licence Vendors through which convenient public access was provided for angling, hunting, migratory waterfowl, *Park Vehicle Entry*, trapping, and various other licences and permits. Total sales were 574,223 licences and permits, for combined revenue of $11,302,738. Vendor activity included 90 new appointments, 88 discontinuances, 24 suspensions and 28 reinstatements. 777 private vendors are in rural areas.

Where licence availability is limited, draws to allocate hunting opportunities for Manitoba residents are conducted. A multi-level priority licence draw system was used. Of 10,830 applicants, 5,700 were awarded licences.

Revenue Management processed over 21,495 payment transactions totaling $134,818,520. These consisted of 14,933 mail-in remittances worth $23,535,302, 6,562 direct sales by Winnipeg cashier totaling $1,983,349, and $109,299,869 in Water Power Rental payments. Revenue Management processed fees from 153 revenue sources. $3,980,123 in over 7,600 invoice payments was processed by Fine.Line, allowing for prompt deposit of funds and electronic updating of client records. Credit cards were accepted at 40 locations, of which 32 also accepted debit cards.

Public Information Section responded to the following requests for information and assistance:

- 50,500 telephone inquiries handled by Information Officers.
- 59,500 calls to Public Information Line, of which 14,250 employed automated information, and the balance directed to staff.
- 68,500 in-person requests.
- 4,866 inquiries through the Internet.
- 4,473 information packages mailed.

Public Information Section also supplies Region and District offices with most publications distributed by the Department, and provides program assistance to Branches, such as scheduling tours of Narcisse Snake Dens, accepting and recording Seasonal Camping Applications and funds, and the like.

Budget Management Section led implementation of SAP accounting system, developing all financial coding, reporting, general ledger implementation and reconciliation, and advising staff on SAP financial transactions. The Section maintained control on expenditures and revenues, enabling the Department to complete the year within budget and meet budgetary targets.

Disbursements Management Section processed approximately 25,000 procurement transactions and 34,500 payments from 48,000 documents. The Section provided co-ordination and guidance to staff working with the SAP system.

Contract Management Section administered over 360 new contracts for construction, engineering and environmental consulting, and fee-for-service agreements, for a total of $19,414,200. The Section provided advice to program managers on contract technicalities, tendering policies, bid-opening practices, insurance and bonding requirements. 44 grants to organizations, totalling $2,511,200 were issued and monitored. The Section created and implemented a comprehensive database program which allows the Section to prepare specialized financial reports for the Executive, Provincial Auditors, Manitoba Finance and Treasury Board Secretariat.

Table AF.4

12.1(d) Financial Services

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	1,388.9	34.33	1,426.2	(37.3)	
Total Other Expenditures	347.1		356.7	(9.6)	

Human Resource Services

Staffing

- Staffing activity included 73 competitive appointments, 175 direct appointments and 94 term extensions. Guidance and advice were provided on Departmental Employee staffing, which has been delegated to managers: there were about 244 appointments to Departmental Employee positions. There was 1 selection appeal.
- Assisted in developing and implementing the Youth Employment (Green Team) Program, employing about 332 youths in rural Manitoba.

Labour/Employee Relations

- Provided guidance and advice to management on 79 labour relations issues, including appropriate discipline, and negotiating settlements to resolve issues before the formal grievance stage. There were 12 formal grievances.

Classification

- Classification activity included 123 position classification reviews. There was 1 classification appeal.

Pay and Benefits

- Processed pay and benefits for about 2,400 staff.
- Provided guidance and advice on pay administration issues.

Organizational Review and Development

- Provided guidance and advice on implementation of organizational changes.
- Employees attended 177 training courses conducted by Organization and Staff Development, 27 at educational institutions, and 244 provided by private vendors.

Employment Equity

- Participated in Aboriginal Public Administration Program.
- Participated in development of Aboriginal Employment Strategy Program.

Table AF.5

Employment Equity Representation

Fiscal Year	Total		Male		Female		Aboriginal		Persons w. Disability		Visible Minority	
	#	%	#	%	#	%	#	%	#	%	#	%
1999-00	2110	100	1461	69.2	649	30.8	291	13.8	39	1.8	25	1.2
2000-01	2146	100	1471	68.5	675	31.5	316	14.7	40	1.9	29	1.4
2001-02	2381	100	1565	65.7	816	34.3	403	16.9	48	2.0	39	1.6

Highlights

- Preliminary development of Employee Orientation Program.
- Extended Aboriginal Career Development Program to 16 Departmental employees.
- Developed and delivered Aboriginal Cultural Awareness Workshop.
- Delivered 2-day Recruitment and Selection workshops to 70 employees.
- Delivered Labour Relations Workshops to over 100 managers and supervisors, with Labour Relations Branch, Treasury Board Secretariat.

Table AF.6

12.1(e) Human Resource Services

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	880.8	17.00	891.8	(11.0)	
Total Other Expenditures	100.7		105.4	(4.7)	

Information Systems Technology

The Branch provides internal information technology service and expertise, including systems analysis, design, implementation, corporate database management, and development and management of a yearly department-wide information technology systems plan. The Branch develops and maintains the Manitoba Land Initiative spatial data warehouse.

Major activities

- Implementation of Environmental Management System occurred throughout the Department, via computer networking technology, to over 100 users. This included development and delivery of training manuals and classroom instruction. Six primary software modules were deployed for environmental and health inspections and enforcement tracking. Data conversion from four older systems and historical paper-based files is under way.
- A new software package was acquired from Alberta to replace an out-dated enforcement/tracking and occurrence reporting system in Region offices. The system will be intranet-based and available to over 200 Natural Resource Officers and Region staff.
- Investigations evaluated enhancement/replacement options for Water Licensing software used by Water Management Branch. These enhancements will be undertaken next year.

- Requirements for a new Emergency Fire Fighters payroll system for Human Resource Services Branch were investigated to replace and enhance the outdated package in use. The best solution is to write new software, to be done next year, involving Oracle Designer development.
- A staff vacancy reporting system for Human Resource Services was completed.
- Phase II of Fisheries Branch database development was completed and implemented into production environment. Phase III, also completed under contract, is in final testing and certification before introduction into production.
- A new GIS-based Red River Valley flood decision support system was completed jointly with Prairie Farm Rehabilitation Administration. This is an Internet-based Web portal through which clients access potential flood risks and impending road closures, sandbag requirements, contact information, and a host of other geospatial datasets and decision-support tools. The Website will be hosted through Manitoba's government central ManWeb Internet site, with development of GIS server being managed internally. When fully operational, the system will include automated near-real-time flood forecasts and daily uploading of water level information.
- Assistance was provided to development of two significant and related informational decision support systems spearheaded by Canada. They are National Forest Information System and Canadian Information System on the Environment. Both involve all Provinces and Territories and are envisioned to be Internet Web-based systems wherein the public can find and review databases on Canada's forests and environmental conditions. Information on forest management practices will include harvesting information, reforestation, forest fires, and related biophysical and environmental indicators.
- Manitoba Land Initiative data warehouse is fully operational and online to all government staff via Intranet. This repository contains all government geospatial GIS data and related databases and metadata, with interactive mapping tools. The Department is currently developing a strategy with partner Departments to deploy this data warehouse externally to the public through the Internet.
- For more efficient delivery of technology, the Branch implemented annual systems planning, including a documenting and review process with client Branches and business areas. Regional IT committees were established in Interlake and Eastern Regions. An Information Technology Support Committee, representing all Divisions, fosters communication and reviews issues and needs.
- The Branch undertook major Webpage development to meet provincial standards. Conservation has over 9,800 active Webpages, managed by a Web Co-ordinator. Many Branches are deploying operations manuals and related documents on internal Websites for access by Region staff in lieu of paper.
- The Department continues to provide further E-service and E-commerce to the public via Internet. Inventories of applications, licenses, and general forms are being processed into electronic versions to make them available on Internet and in 'one-stop shops'. The Department participates on an interdepartmental working group researching and recommending an integrated E-commerce and electronic bill-payment system for government.
- Parks Branch completed investigations on deploying an Internet-based reservation system for 8 most popular campgrounds, that will greatly enhance its telephone reservation service, for introduction next year.
- A new Crown Lands Registry Information System, completed by Branch staff, in beta testing, will be deployed to over 50 clients on-line next year. Phase II will include design/development of GIS mapping.
- The Branch started consolidation of its corporate-application and production-data base servers, to replace older hardware with more efficient and higher-load-capacity architecture. Several database applications will also be amalgamated to streamline and economise on software licensing.
- The Branch continues co-ordination of the Departments' GIS requirements through a central GIS server environment and chairing a Departmental GIS Working Group and regional committees.

Table AF.7

12.1(f) Information Systems Technology

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	1,001.7	20.00	1,269.3	(267.6)	
Total Other Expenditures	381.3		378.2	3.1	

Chapter 4

Conservation Support Services

Computer Graphics

The unit provides computer-aided design and drafting (CAD), desktop publishing, and geographic information system (GIS) services to the Department. Specialised CAD services include engineering plans for capital works and infrastructure maintenance projects. Desktop publishing produces high-quality informational materials for programs, policies, and initiatives. GIS services provide expertise for spatial data analyses and preparation of geo-referenced maps.

The unit received 241 requests for service, of which 237 were completed, 2 were rescinded, and 2 are in progress. Figure 3 shows distribution of staff time among clients.

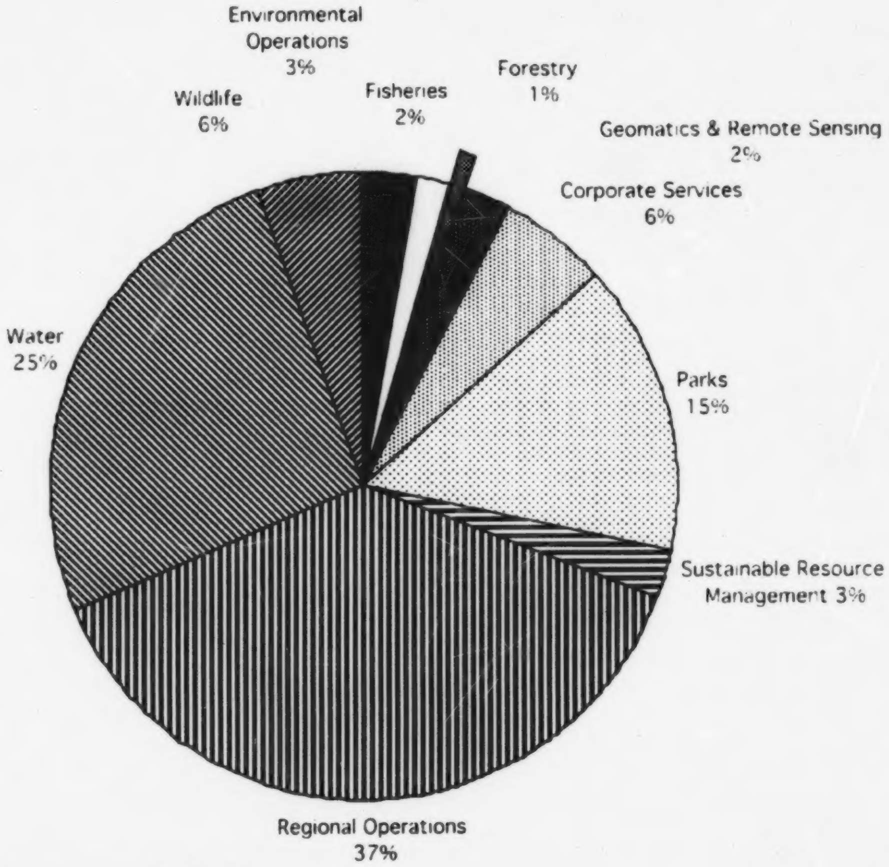


Figure 2: Staff Time, by Client

Services provided included:

- Supported Waterway Maintenance program by preparing engineering plans for maintenance and refurbishment of water-control infrastructure, such as Main Drain, Boyne River Drain, R.M. Of Rhineland Drain, Bottle Creek Drain, Plishka Drain, Lower Youville Drain, and Framness Drain.

- Prepared construction plans for St. Adolphe Pump Pit, Edwards Creek Bridge, Gretna Valley Town Dykes, Lettellier Community Dyke Protection System, and Emerson Valley Town Dykes.
- Assisted development of Red River Flood Management System, to run on Internet as a mapping application. This will disseminate flood-related information to public and staff. Work involved assembling, cleaning, and documentation of data and its sources.
- On-going efforts continued to check all spatial data currently residing on the GIS server. This involved checking data for error, building a custom legend, and preparing metadata. Corrected data will be placed in a new data library for all staff, ensuring that data is identical, accurate and current.
- Provided Desktop publishing services to all programs areas through complete publication of several booklets and brochures such as *2002 Hunting Guide*, *2002 Anglers' Guide*, *Grand Beach Management Plan*, *Atikaki Interpretative Brochure*, *Duck Mountain Management Plan*, *Atikaki Provincial Park and Bloodvein Canadian Heritage River Management Plan*, and *Water: A Proposed Strategic Plan for Manitoba*.
- Prepared storyboards and display boards, such as *Environment Management System*, *Manitoba Round Table*, and *Sustainable Development Innovations Fund*.
- Continued support to Geographical Names Program, to honour war casualties.
- Prepared summer, winter and seasonal-use maps, trail and route maps, for Parks and Natural Areas Branch. Designed and produced signage and permits for Parks campgrounds.
- Prepared a variety of materials, such as *PowerPoint* presentations, slides and overheads, for presentations to public meetings and hearings.
- Prepared annual updates of Crown Land Operational Code maps for Crown Land Classification Committee.
- Supported Water Resources Water Licensing Program, by preparing location plans for production wells at towns, farms and industrial operations. Also provided mapping services to support drainage licensing. Prepared location maps for Environmental Assessment and Licensing Branch, for newspaper notices for public hearings.
- Performed miscellaneous tasks, such as plotting hydrology data, and mean monthly levels of lakes. Designed report covers, charts and graphs for various publications. Maintained Department organizational charts for Human Resources Branch.

Table CS.1

12.2(a) Computer Graphics

Expenditures by Sub-appropriation	**Actual 2001/02 $**	**Estimate 2001/02 FTE**	**Estimate 2001/02 $**	**Variance Over/(Under)**	**Expl. No.**
Total Salaries and Employee Benefits	518.6	11.00	504.8	13.5	
Total Other Expenditures	41.4		50.9	(9.5)	

Survey Services

The Branch administers and enforces **The Surveys Act** (Part II) and *The Survey of Mining Claims Regulation*, approves Plans of Survey for disposition of land under **The Crown Lands Act** and *The Mineral Disposition and Mineral Lease Regulation* (**The Mines and Minerals Act**), represents Manitoba on matters related to provincial boundaries, provides survey services to other Departments, and maintains the Manitoba Spatial Reference Network and Land Survey System. Public benefits include a secure process for conveyance and reservation of Crown land and rights therein, an economical survey service for acquisition and disposition of land, a survey system for determining property boundaries, and a geodetic survey network for spatial referencing of land-related information.

Land Survey System

The program restores survey monuments, instructs surveyors, examines plans of survey of Crown lands, maintains the province's boundaries, and operates the Crown Land Survey Information Centre.

The Branch placed 115 monuments in township and parish-lot systems of survey, provided 12 sets of survey instructions, examined 52 plans of survey, and responded to 330 information requests. Survey Services provided 242 marker posts to private land surveyors at no charge for protecting and locating survey monuments.

Conversion of plans of survey, control survey station descriptions, and surveyors' field notes to electronic format continued. Scanning of on-site records now includes 7,600 of 10,000 plans of survey, 2,600 of 5,000 station descriptions, and 50 of 250 field books. Off-site records consisting of 11,000 plans of survey will be considered under Phase II of this initiative.

Information Centre continued development of Field Book Database for users seeking surveyor's field notes.

Manitoba Spatial Reference Network Program

The program maintains a network of survey monuments whose positions and/or elevations have been determined. Disciplines such as civil engineering, resource management, and land surveying require this network to determine position and elevation of natural and man-made features and related information. This is essential to ensure compatibility of all geomatics, navigation, and other spatial information, to permit exchange and merger, seamlessly and economically.

The Manitoba Spatial Reference Network is integral to Canadian Spatial Reference System (CSRS), contributing to a reliable national infrastructure for referencing spatial information. Staff expanded the primary component in northern Manitoba and continued upgrading mathematical positioning of network stations, which now comprises 173 primary and about 10,000 secondary stations, with CSRS 1998 co-ordinate values.

A license from Natural Resources Canada was continued to modify, reproduce and redistribute Canadian Geodetic Bulletin Board Service Digital Information, providing 'one-stop shopping' for basic control survey information.

Manitoba continued a federal-provincial-territorial *Memorandum of Agreement* to enhance and expand application of GPS technology. This will provide a national real-time GPS correction service over Canada and beyond, improving efficiency and effectiveness and enabling applications not previously possible. It will benefit government and industry by improving standardization of data collection and positional accuracy, while lowering costs and improving services that rely on spatial referencing in such applications as natural resource management, environment monitoring, agriculture, civil engineering, land management, trucking and shipping, fleet management, aviation, marine operations, mineral exploration, mining, facilities management, and emergency services. A private contractor designed and developed the satellite up-link hub and ground receiver for transmission of the correction signal and plans full-scale production and operation in October 2002. A consultant produced a marketing strategy for consideration and implementation.

Survey Services Program

The Program provides land, engineering, and control surveys and related services for acquiring and disposing of land, constructing and maintaining public works, and spatially referencing land-related features and information, including:

- Subdivision, right-of-way, parcel, and easement surveys.
- Terrain modelling and contour surveys, including beds of water bodies.

- Cross-section and centre-line profile surveys.
- Project-specific mapping and engineering control surveys.
- Topographical and location surveys.
- Cadastral mapping.
- Air-photo compilations.
- Deformation and subsidence surveys.
- Land dimensions, quantities, and spatial co-ordinates.
- Administrative boundary plans.
- Legal descriptions and title plots.
- Structure location certifications.
- Land transaction documents.

Major client departments included Manitoba Transportation and Government Services (Construction and Maintenance, and Land Management Services), Manitoba Conservation (Water Management, Parks and Natural Areas, Lands), Manitoba Aboriginal and Northern Affairs (Agreement Management Co-ordination, and Community Support Services), Manitoba Industry, Trade and Mines (Mines and Petroleum), and Manitoba Intergovernmental Affairs (Local Government Support Services, and Water Services Board).

Land description services are offered to municipalities, law and survey firms, and citizens, for Crown land reservations, dispositions, and other consents or rights, for such purposes as subdivisions, sales and exchanges, plan cancellations, and closing bylaws. These services include preparation of legal descriptions, calculation of areas, reviews of easement documents, reports on mines and minerals, and preparation of *Minister's Orders* and *Consents*.

Survey Services achieved its cost-recovery objective. Surveyors and survey technologists carried out work on 541 projects: 176 land surveys, 18 control surveys, 338 land descriptions, and 9 Ministerial Orders. Noteworthy work included:

- Parcel surveys of land selections under Cross Lake First Nation Northern Flood Agreement.
- Parcel surveys of land selections under Grand Rapids Forebay Agreement, concerning Mosakahiken Cree Nation, Chemawawin Cree Nation, Moose Lake Community, and Easterville Community.
- Parcel survey of Dinsdale Park in Brandon to facilitate upgrade of 18th Street (PTH 10).
- Right-of-way surveys of selected roads in Birdtail Creek Indian Reserve, as part of cost sharing agreement between Canada and Manitoba.
- Retracement survey adjoining Duck Mountain Provincial Forest to resolve boundary disputes.
- Right-of-way survey of intersection of PTH 6 and PR 239 for highway development.
- Right-of-way survey of new southeast by-pass around Swan River, being part of PTH 83.
- Public Road survey of first 25 kilometres between Ruttan Mine and South Indian Lake.
- Subdivision survey of 23 lots at Westgate.
- Water control surveys south of Ste. Amelie for Turtle River Watershed Conservation District under a cost-sharing agreement.
- Public Road surveys of PR 304 between Manigotagan and Long Lake, completing 40% of the project.
- Public Road survey of PTH 9 from the North Perimeter to Miller Road.
- Water control surveys of Niverville and Aubigny town dykes.
- Compilation of 6 geo-referenced aerial photos for land selections under Treaty Land Entitlement program for Fox Lake First Nation.

Table CS.2

12.2(b) Survey Services

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	1,292.2	32.00	1,596.1	(303.9)	
Total Other Expenditures	315.5		502.2	(186.7)	
Total Recoveries	(1,384.4)		(1,570.7)	(186.3)	

Distribution Centre

The Centre serves government and public with map sales, air-photo library, support for projects, and reproduction of material. The market for these products is primarily the public.

51,000 maps were sold directly or through about 155 dealers in Manitoba, northwestern Ontario and north-central USA. Canada-produced maps experienced increasing sales to outdoor recreational users, due to marketing at US outdoor recreational venues. Dealer numbers grew due to the Regional Distributor Agreement with Fisheries and Oceans Canada, increase in discount rate for hydrographic charts, and expansion of market boundaries.

Sale of hydrographic charts was depressed due to illegal production and underselling. Fisheries and Oceans Canada and Distribution Centre are working with Justice Canada to prevent illegal production. New charts for Lake of the Woods and part of Winnipeg River system (largest area for sales), printed on water-resistant paper, will be available in spring 2002.

New products and product lines have been added, geared to client needs and requests. Printing on demand for certain products is now available, reducing need for large pressruns.

The Centre operates the government's first credit-card-secured e-commerce site, *Canadamapsales.com*, offering maps–including all topographic maps for Canada–to a market without geographic boundaries, that never closes. The site generated $24,000 in sales in its second year. Boating chart indices are being added.

Sale of mapping products and the e-commerce site is promoted by advertising in Yellow Pages, ***Anglers' Guide***, Travel Manitoba publications, and display headers. Product brochures were completely re-designed to better reflect the products and their users. To promote map sales to our largest client group, the outdoor recreational user, for whom Canada is a favourite destination, *Canadamapsales.com* participated in recreational consumer shows: Chicagoland Sport Fishing Show, Indianapolis Sport Show, Northwest Sport Show (Minneapolis), Winnipeg Boat Show, and two All-Canada Shows (St. Charles and Green Bay).

Air Photo Library began updating the index system by computerizing flightline information for all air photos.

4,000 aerial photographs added to Air Photo Library brought holdings to 886,669. 15,736 products were supplied to customers, Mapping Program, and other agencies. The photomechanical unit employs a scanner and computer to scan photography and supply quick prints, at better quality than the former copyproof camera.

A feasibility study began to explore more efficient/effective ways of operation and providing products and services to the public and other Departments.

Geographic Mapping

Thematic mapping for government (20 projects) included Park boundary plans, forestry maps, lake depth charts, Parks brochure updates, School Division boundary updates, and updating and publishing other products. Lake depth charts are being revamped gradually; the 200 charts available will be issued in the new format as stocks deplete. The *Manitoba Angling Map* has been revised and is now available, also printed on demand.

Table CS.3
12.2(c) Distribution Centre

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	320.5	9.00	388.2	(67.7)	
Total Other Expenditures	317.8		351.6	(33.8)	
Total Recoveries	(67.9)		(95.0)	(27.1)	

Chapter 5

Regional Operations

Programs and activities are delivered in six Regions: Northwest Region, Northeast Region, Interlake Region, Eastern Region, Western Region, and Red River Region, and supported from Headquarters Operations in Winnipeg, which also supervises Fire Program, the Office of Drinking Water, and the Livestock Program.

Headquarters Operations

Headquarters Operations directs and co-ordinates natural resource, environmental, and public health programs in the field through operational guidelines, development of policy and procedures, and liaison with resource Branches and external agencies. Cost-effective use of resources is ensured through operational guidelines, organizational standards and controls, monitoring effectiveness, financial controls, and reporting.

This is done by multi-disciplined full-time and seasonal staff working from Headquarters offices in Winnipeg.

Programs and services delivered at community level include:

- Field activities for resource and environmental management,
- Enforcement of legislation,
- Livestock Program,
- Office of Drinking Water,
- Dangerous Goods Section (includes transportation of dangerous goods, petroleum storage programs, contaminated sites, and hazardous waste, and emergency response),
- Public Health Inspection,
- Operation of Provincial Parks, waterways and water control works,
- Emergency response to environmental accidents, forest fires, floods and drought,
- Co-ordination of hunter-safety training and guide licensing,
- Problem wildlife control.

Environmental Operations

Livestock Program

A team was established to administer the *Livestock Manure and Mortalities Management Regulation*. Team members, including Environment Officers and Environmental Engineers, are regionally based to provide local coverage. Primary team responsibilities include investigation of complaints, annual inspection of permitted manure storage facilities, inspection of facility construction, and enforcement of Regulations on management of manure and mortalities.

495 *Permits* for manure storage facilities were issued since 1994, mostly to new, large-scale hog producers. *Permitted* facilities are subject to annual inspection to ensure compliance with *Regulation* and *Permit* conditions, including erosion protection on inner surfaces of earthen facilities, visible signs of erosion, leakage, construction defects or damage, potential environmental effects, and management of mortalities.

Staff conduct at least three inspections during construction of all new facilities to ensure compliance with *Permit* and *Regulation* requirements and address problems encountered during construction.

Headquarters ensures consistent program delivery through development of procedures, standards and policies. Headquarters also administers *Manure Management Plans*, essential to effectively regulating intensive livestock operations.

Table RO.1 shows enforcement over the last eight years.

Table RO.1
Livestock Regulation Enforcement 1994-95 to 2001-02

Fiscal Year	Prosecutions	*Warnings*	Orders	Fines ($)
1994-95	5	15	1	1,188.00
1995-96	8	13	1	1,716.00
1996-97	14	21	4	11,010.00
1997-98	15	12	6	6,726.00
1998-99	12	32	7	11,862.00
1099-00	9	35	10	8,496.00
2000-01	16	49	22	8,067.00
2001-02	16	53	34	11,903.00
Total	**95**	**230**	**85**	**$60,986.00**

Dangerous Goods

Dangerous Goods Section covers programs for transportation of dangerous goods, petroleum storage, contaminated sites, hazardous waste, and emergency response, to:

- co-ordinate development of policies and procedures and maintain policy/procedure manuals,
- co-ordinate and lead Teams in each program,
- provide guidance, co-ordinate training, and ensure consistent program delivery across Regions,
- provide technical expertise, leadership and information to government, clients, and general public.

Petroleum Storage

The *Storage and Handling of Petroleum Products and Allied Products Regulation* was enacted, replacing its predecessor, in effect since 1977. Implementation of new initiatives, such as licensing petroleum technicians and *Permitting* existing storage tanks, commenced.

Contaminated Sites

A team formed to redevelop policies/procedures to guide managing contaminated sites. Intensive work was performed to delineate and remediate the site of a large tire fire in R.M. of Rosser.

All identified contaminated sites with contamination greater than lowest applicable guideline values, including those not designated as *Contaminated Sites*, are tracked to ensure public safety and health and environmental protection. Sites that threaten human health and/or the environment are designated.

There are about 1,930 sites tracked in Contaminated Sites Database, only eight of which are designated as *Contaminated* under ***The Contaminated Sites Remediation Act***.

Hazardous Waste Program

About 7,200 generators of hazardous waste registered; about 13,000 hazardous waste transport manifests were processed.

A local hazardous waste disposal company was fined $20,000 for violations of ***The Dangerous Goods Handling and Transportation Act***, culminating an investigation begun in October 1999.

Emergency Response Team

The Team operates under ***The Dangerous Goods Handling and Transportation Act***, which gives Environment Officers and Inspectors special powers in emergencies to enter any land or building, control and clean up releases, and take any emergency actions required to protect persons, property, and the environment.

The Team responds to releases or potential releases of contaminants that may detrimentally affect the environment or public health. *Manitoba Emergency Plan* identifies Manitoba Conservation as the lead provincial agency for dangerous goods incidents and environmental accidents.

The active Team consists of 12 Environment Officers. 22 regional Environment Officers are also part of the response system. A 24-hour reporting line for environmental emergencies is maintained, the number for which (944-4888) is included in federal and provincial spill-reporting regulations.

Basic training for ERT members is about 50 days and meets requirements of *NFPA 472 Hazardous Material Responder Training* and *CFR 1910/120* training for hazardous materials workers. Members receive training in *Basic Radiation Protection and Instrumentation*, *Occupational Safety and Health*, *Self-Contained Breathing Apparatus*, *Transportation of Dangerous Goods*, first aid, and cardio-pulmonary resuscitation.

Table RO.2

Environmental Accidents

Total number of calls received	607
Total number of accidents reported	343
Breakdown by accident type:	
Transport-related	64
Spills during product handling	59
Equipment failure	109
Miscellaneous	111
Breakdown by dangerous goods classification (where applicable)	
Class 1 (Explosives)	0
Class 2 (Compressed Gases)	52
Class 3 (Flammable Liquids)	154
Class 4 (Flammable Solids)	0
Class 5 (Oxidizers and Organic Peroxides)	3
Class 6.1 (Poisonous Substances)	0
Class 6.2 (Infectious Substances)	0
Class 7 (Radioactive Materials)	0
Class 8 (Corrosive Substances)	16
Class 9 (Miscellaneous Substances)	22
Special	
Suspicious packages and post-September 11 response calls	130

Public Health Program

The Department conducts food-service inspection in co-operation with Manitoba Health, to reduce risk of injury or disease from food consumption. Staff respond to serious foodborne illness outbreaks and are integral to the disease management team. ***Foodsafe*** training courses are presented to the food service industry. Staff administer part of ***The Non-Smokers Health Protection Act*** in food-service facilities as part of inspection.

Onsite Sewage Management

Review of the private sewage disposal program was completed, and a number of changes were proposed to the *Regulation*. Sewage field failures continue to be problematic in districts with heavy clay soils; the new Regulation will address some concerns. An Onsite Wastewater Management System Installer's course is facilitated through Red River College; this year's course was the third: 86 persons have completed training.

Orphaned and Abandoned Mine Site Program

In support of Manitoba Industry, Trade and Mines' initiative to address safety concerns with five orphaned/abandoned mines, Manitoba Conservation initiated site-specific human health and environmental risk assessments at two sites, Sherridon and Lynn Lake.

- The Sherridon study continues a hydrogeologicial/geochemical study of Sherridon Mine tailings impoundment. This will provide information on impacts of mine tailings on adjacent waterbodies; data will be applied in risk assessment to be initiated next year.
- The Lynn Lake field program to gather data on tailings and the environment will be conducted April to November 2002 and will include sampling surface soil, sediment, groundwater, surface water, ambient air, and indoor air.
- Hazard assessment and risk characterization will occur from October 2002 to February 2003. A final report will be completed in March 2003.

Petroleum Hydrocarbon Canada-Wide Standard

Canadian Council of Ministers of the Environment developed an *Accord on Environmental Harmonization* (1998), a framework agreement that establishes common vision, objectives and principles to govern the partnership between jurisdictions, and development and implementation of sub-agreements. One sub-agreement is the *Petroleum Hydrocarbon Canada-Wide Standard*.

The *Standard*, for remediation of contaminated soil and subsoil in four landuse categories (agriculture, parkland/residential, commercial, and industrial), was adopted under ***The Contaminated Sites Remediation Act***.

Enforcement

Enforcement policy/procedure provides a consistent approach, with emphasis on ensuring compliance with legislation. In addition to the summary below, a detailed report of enforcement activities is available in Public Registries throughout the Province and on the Department's homepage at www.gov.mb.ca/environ.

Table RO.3
Environmental Sector Enforcement

Legislation	Prosecutions	*Warnings*	Orders	Fines ($)
The Dangerous Goods Handling and Transportation Act	128	14	14	36,626
The Environment Act	48	145	43	22,765
The Non-Smokers Health Protection Act	3			30
The Public Health Act	13	40	3	2803
Municipal By-laws		11		
Total	192	210	60	62,224

Table RO.4
Enforcement, by Act/Regulation

Legislation	Prosecutions	Fines ($)
***The Dangerous Goods Handling and Transportation Act**, M.R. 172/85, 439/87*	128	36,626
The Environment Act	2	885
The Non-Smokers Health Protection Act	3	30
The Public Health Act	13	2,803
Waste Disposal Grounds Regulation	3	3,335
Litter Regulation	20	3,789
Storage and Handling of Petroleum Products Regulation	1	351
Burning of Crop Residue and Non-Crop Regulation	1	1,800
Private Sewage Disposal Regulation	5	702
Livestock Manure and Mortalities Management Regulation	16	11,903

Regional Support Services

In collaboration with Aboriginal Relations Branch, Sustainable Resource Management Branch and Manitoba Justice, a hunting and fishing guide for First Nations people was developed and published on Manitoba Conservation's public Website. Headquarters also established a major presence on the Department's Intranet site and began adding information frequently referenced by field staff, to eventually replace printed manuals and documents circulated by mail.

Amendment to *Hunting Guides Regulation* strengthened sanctions against Guides that violate resource laws. 1,497 *Guide Licences* were issued, up 28 over last year.

Annual training and recertification was provided to 132 Natural Resource Officers, with 15 receiving specialized training in wildfire investigation. Training was held throughout the province for cost-effective delivery. 31 new Park Patrol Officers were given basic training over an eight-day period, in hospitality, tactical communication, defensive tactics, firearm use, legislation, and administrative forms, prior to summer assignment. 42 new Assistant Resource Officers received training to enhance Officer and public safety. Critical Incident Stress Management training was given to 40 Natural Resource Officers. In total, 28 days of training were delivered on 23 subjects to 317 participants.

Tables RO.5 to RO.7 show common violations. Table RO.8 is a 10-year comparison of prosecutions for wildlife, fisheries, Parks, and migratory-bird offences. Table RO.9 shows prosecutions and *Warnings* for all violations.

Table RO.5
Common Violations under *The Provincial Parks Act*

Offence	Prosecutions	*Warnings*	Total Offences	Evictions
Cause Disturbance	80	199	279	304
Unlawful Vehicle Operation	17	94	111	0
Have Liquor When Prohibited	60	10	70	62
Damage Park Property	17	12	29	12
Possess Fireworks	11	10	21	1
Fail to Care/Control Animal	5	14	19	0
Disobey Permit Conditions	0	16	16	0
Pet Off Leash/On Beach	2	11	13	0
Fail To Obey Order	8	2	10	2
Fail To Maintain Campsite	3	7	10	0
Disobey Officer or Sign	7	2	9	3
Other	17	24	41	4
Total	**227**	**393**	**620**	**388**

Table RO.6
Common Violations under *The Wildlife Act*

Offence	Prosecutions	*Warnings*	Total Offences
Hunt on Private Land Without Permission	71	5	76
Loaded Firearm in Vehicle	45	2	47
Possess Illegally Taken Wildlife	42	1	43
Possess Wildlife Without Permit	14	8	22
Fail to Notch Tag	17	4	21
Hunt or Discharge Firearm From Road	21	0	21
Discharge Firearm at Night	21	0	21
Nightlighting	16	2	18
Illegal Vehicle Use for Hunting	8	7	15
Hunt Without Licence	9	5	14
Abandon/Waste Game	10	3	13
Fail to Wear Orange	12	0	12
Other	93	40	133
Total	**379**	**77**	**456**

Table RO.7

Common Violations under *Fisheries Act* and *Freshwater Fish Marketing Act* (Canada), and *The Fisheries Act* (Manitoba)

Offence	Prosecutions	*Warnings*	Total Offences
Use Barbed Hook	312	21	333
Exceed Daily or Possession Limit	81	57	138
Fish Without Licence	79	41	120
Fail to Carry or Produce Licence	17	53	70
Use Too Many Lines or Hooks	62	2	64
Violate Condition of Licence	35	22	57
Possess Unidentifiable Fish	22	26	48
Fish During Closed Time	5	19	24
Improperly Marked Nets	11	10	21
Live Bait Infractions	9	5	14
Fail To Remove Fishing Gear	2	11	13
Buy/Sell Fish Illegally	12	0	12
Transport Fish Without Loadslip	9	1	10
Other	18	26	44
Total	**674**	**294**	**968**

Table RO.8

Comparison of Wildlife, Fisheries, Parks and Migratory Birds Prosecutions 1992-93 to 2001-02

Fiscal Year	Wildlife	Fisheries*	Parks	Migratory Birds
1992-93	937	1,000	180	20
1993-94	874	898	253	18
1994-95	640	1,033	142	85
1995-96	395	741	185	18
1996-97	441	976	173	26
1997-98	421	846	171	9
1998-99	278	965	248	6
1999-00	337	833	219	36
2000-01	371	610	203	8
2001-02	379	674	227	8

Includes all Fisheries Acts and Regulations found in Table RO.3

Table RO.9
Record of Violations Concluded

Acts	Prosecutions	% Convicted	*Warnings*	Total Offences
Criminal Code	1	100	2	3
Crown Lands	14	93	34	48
Forest	19	89	19	38
Fisheries (Canada)	561	91	189	750
Fisheries (Manitoba)	128	95	102	230
Highway Traffic	70	87	66	136
Liquor Control	238	92	31	269
Migratory Birds	11	91	1	12
Off Road Vehicle	13	85	11	24
Provincial Parks	217	92	393	610
Tourism and Recreation	1	100	0	1
W.A.P.P.R.I.I.T. (Can.)	1	100	0	1
Wildfires	11	91	10	21
Wildlife	336	63	77	413
Water Rights	3	33	30	33
Total	1,624		965	2,589

Total Fines: $177,356 and Costs: $52,602 for 2001-02

Hunter and Firearm Safety Training

Manitoba Wildlife Federation administers and delivers the Hunter and Firearm Safety Training Program. About 250 active instructors graduated 1,976 students, slightly down from last year's 2,079.

Since the program began (1964), 136,061 students have been trained (Table RO.10). Table RO.11 shows firearm incident statistics, by five-year average since 1964. Table RO.12 provides statistics on firearm incidents and fatalities over the last 10 years. (*Non-hunting incidents* refer to incidents in the home, children playing with firearms, and the like).

Table RO.10
Hunter and Firearm Safety Program 1991-2001

Year	Students	Total to Date	Instructors Certified
1991	2,543	114,260	26
1992	2,651	116,881	19
1993	2,685	119,566	41
1994	2,256	121,822	45
1995	2,381	124,203	18
1996	2,115	126,318	11
1997	2,101	128,419	8
1998	1,807	130,226	24
1999	2,068	132,006	15
2000	2,079	134,085	5
2001	1,976	136,061	4

Table RO.11
Firearm Accidents, 1964-98, 5-Year Averages

1964-68	64
1969-73	56
1974-78	54
1979-83	43
1984-88	26
1989-93	20
1994-98	9

Table RO.12
Firearm Accidents 1991-2001

	Accidents			Fatalities		
Year	Hunting	Non-Hunting	Total	Hunting	Non-Hunting	Total
1991	10	9	19	1	1	2
1992	12	9	21	1	0	1
1993	5	8	13	0	0	0
1994	4	5	9	1	1	2
1995	9	6	15	0	0	0
1996	6	2	8	1	0	1
1997	2	6	8	0	2	2
1998	4	2	6	1	0	1
1999	10	5	15	3	1	4
2000	3	0	3	0	0	0
2001	6	0	6	3	0	3

Hunter-Killed Livestock Compensation

The Program compensates farmers for livestock deemed accidentally shot by licenced hunters. This is the second year that Natural Resource Officers have been investigating kills, largely replacing RCMP. Five claims qualified for compensation, for a total of $5,033.65. Table RO.13 lists claims over the last 10 years.

Table RO.13
Hunter-Killed Livestock Compensation 1992-93 to 2001-02

Year Paid	Claims	Claims Paid	Total Paid	Average
1992-93	7	6	8,001.65	1,334
1993-94	3	3	2,570.00	857
1994-95	9	7	11,850.00	1,693
1995-96	3	2	4,265.00	2,132
1996-97	4	4	9,800.00	2,450
1997-98	2	2	2,250.00	1,125
1998-99	7	6	9,532.55	1,589
1999-00	9	6	5,670.00	945
2000-01	7	4	4,120.00	1,030
2001-02	6	5	$5,033.65	$1,007

Problem Wildlife Complaints

Control of predators with pesticides was curtailed due to federal licensing problems. 4,566 complaints were received, down 452 from last year (black bear complaints were up by 36% but complaints about most other species were down). Complaints of big game damage were down by 54% from last year.

Table RO.14
Problem Wildlife Occurrences

Species	Region							
	NE	NW	E	I	W	RR	Total	% of Total
Beaver	6	13	59	94	61	77	303	6
Black Bear	92	114	681	487	192	223	1,311	26
Polar Bear	212	0	0	0	0	0	169	3
Big Game	1	2	12	72	168	99	762	15
Wolf	7	14	21	20	49	20	179	4
Migratory Birds	0	8	3	120	105	27	481	10
Other	11	21	202	304	516	453	1,813	36
Total	329	172	978	1,097	1,091	899	4,566	100

Special Investigations Unit

Investigators centred efforts on gathering and evaluating regional and departmental intelligence. Staff were able to focus on regional concerns and initiated several investigations. New unit members attended the *National Special Investigations Undercover Operator and Cover Team Course* (Toronto).

Turn-in-Poachers and Report Forest Fires Line (T.I.P.)

The toll-free telephone service (1-800-782-0076), to combat illegal harvest of fish and wildlife, received 490 calls, resulting in 40 prosecutions and 12 *Warnings*. 79 forest fires were reported.

Table RO.15
T.I.P. Calls by Region

Region	Number of Calls					Number of Charges			
	Fish	Wildlife	Other	Fire	Total	Fish	Wildlife	Other	Total
Headquarters	4	38	0	0	42	0	11	0	11
Interlake + Red River	20	123	1	8	152	2	6	0	8
Western	29	149	2	3	183	1	6	0	7
Eastern	15	93	1	21	130	2	12	0	14
Northwestern	5	5	2	17	29	0	0	0	0
Northeastern	1	2	0	30	33	0	0	0	0
Total	74	410	6	79	569	5	35	0	40

Table RO.16
T.I.P. Calls by Year 1993-94 to 2001-02

	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02
Calls Received	925	974	904	714	640	695	758	568	569
For Information	46	103	91	41	39	24	28	23	18
Calls Actioned	520	500	296	316	302	298	321	204	230
Prosecutions	132	127	156	68	74	74	70	59	40
Warnings	33	22	14	11	16	12	23	37	12

Table RO.17
12.3(a) Headquarters Operations

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	3,305.5	49.5	2,608.0	(627.5)	
Other Expenditures	1,959.3		2,050.5	(91.2)	
Problem Wildlife Control	209.7		240.6	(30.9)	
Total Other Expenditures	2,169.0		2,291.1	(122.1)	

Northwest Region

The Region administers programs and services for Crown lands, Provincial Parks, the environment, natural resources (wildlife, fisheries, forestry), public health, and wildfire protection. This includes development, delivery, and evaluation of programs and services, and inspection, compliance, monitoring, and enforcement of environment, resources, and health legislation.

This is done by a multi-disciplined full-time and seasonal staff working from a Regional Office in The Pas, and District Offices at The Pas, Cranberry Portage, Flin Flon, Grand Rapids, and Snow Lake, and Sub-District Offices at Sherridon, Moose Lake, and Cormorant.

Enforcement

Natural Resource Officers conducted patrols to ensure compliance with legislation. This resulted in 191 enforcement actions (102 charges and 89 *Warnings*). Officers responded to 351 *Occurrence Reports*, of which 172 were problem wildlife, 122 regulatory, and 57 non-regulatory in nature.

Officers checked 674 licensed hunters, 114 subsistence hunters, 3,056 anglers, 595 commercial fisher nets, and 69 domestic fisher nets. Staff conducted 149 timber inspections on Tolko harvest areas.

Three roadside fish and wildlife check stations were conducted with 75 vehicles being checked and 6 resource violations detected.

Engineering

Weather conditions were again ideal for agriculture through growing and harvest seasons. Below-average snowfall, permitting early spring seeding, timely summer rainfall and favourable fall conditions provided well above-average yields in cereal, oilseed and forage crops.

Pumping operations in Pasquia Land Settlement totalled 61.5 hours.

Waterway and dyke maintenance were accelerated due to favourable conditions. Reduced pumping costs allowed reallocating funding to maintenance. Weed and brush control programs were concluded on schedule; mowing of drains and dykes were also extended.

Repairs and maintenance were performed on Goose Creek and Snow Creek dams.

Lake levels in most areas dropped substantially due to hot dry weather, except for Lake Athapapuskow. Lakes near Sherridon remained normal.

Water Quality

Evaluations, monitoring and assessments of water quality are a high priority. Projects were completed in the following areas:

- Assessment of Lake Athapapuskow and the Northeast and Inlet Arms of Schist Lake was completed. With assistance and partnership of cottage owners associations of Little Athapap, South Athapap, and the Big Island/Schist Lake, water samples were collected every two weeks from late June to September. A final report is being completed for presentation to the Associations. Lake Athapapuskow water is good quality.
- Extensive well-water survey was completed in RM of Grand Rapids to assess level of potential contamination in the carbonate rock aquifer. 56 private water wells were tested for total coliform and *E.coli* bacteria. The survey included inspection of wells that tested positive for bacteria in the initial round of water sampling. Survey indicated that bacterial contamination of the aquifer, and point sources in the community, is not widespread but related more to problems with individual wells. Residents were advised prior to survey and were kept informed as it proceeded. Re-sampling following treatment confirmed improvement in well-water quality.
- In partnership with the Town, a study of Snow Lake through summer was conducted by taking bi-weekly samples from 4 locations. Over 100 variables were considered, including tests for bacteria, nutrients, heavy metals, pesticides, and general chemistry. Comparison to *Canadian Water Quality Index* placed quality as "excellent". Particular attention was paid to cyanide and arsenic levels, all of which were below detection levels and guidelines.

Forestry

Staff reviewed and monitored Tolko Industries' forest management activities in Highrock and Saskatchewan River Forest Sections. Proposed softwood harvest is approximately 715,360 m^3, slightly more than half of the company's wood requirements for their FMLA.

Staff also monitored the company's forest renewal activities: site preparation on 172 ha. and planting 150,000 seedlings on harvested areas outside of the FML Agreement. Staff reviewed about 350 ha. for free-to-grow and updated regeneration status for Forestry Branch.

Growth and Yield Section were assisted with their forest productivity program by establishing about 25 plots and completing 75 samples. Staff assisted the Tree Improvement section with maintenance of seed orchards and family test sites, seed collections and seed production areas.

Staff developed a *Work Permit* tracking system and provided assistance in GIS.

Fisheries

Chemawawin First Nation extended voluntary closure of Cedar Lake commercial fishery for a sixth year. This is a positive management action by First Nations to ensure sustainability of the fishery. Index netting on Cedar Lake, begun in 1970's, continued. This is the most comprehensive index netting study done in Manitoba over a long period.

Consultation with Snow Lake Resource Enhancement Group (SLERG) continues; effort focussed on improvement of Wekusko Lake fishery. A volunteer creel survey was conducted on Lake Kississing, with forms available through local lodges and outfitters.

Working with commercial fishing associations of Saskatchewan River Delta continues with assistance provided to develop their Constitutions, and in fishery management. This was the first in many years in which OCN Saskatchewan River Commercial Fishermen Association succeeded in filling their quota.

Number of Fish Derby permits issued (22) was a substantial increase.

Lands

Staff work with land-users and resource industries to ensure access and proper management. Cottager concerns, requests for additional cottage lots, Treaty Land Entitlement, forestry operations, and providing comment from the Integrated Resource Management Team are daily duties.

517 *General Permits*, 82 *Miscellaneous Permits*, 180 *Wild Rice Licenses*, 23 *Vacation Home Leases*, and 162 *Vacation Home Permits* are in effect. Total Crown land sales this year were 83.

Parks

Pioneer Bay campground in Clearwater Lake Provincial Park was redeveloped (after being closed for about 25 years). 27 electrical sites, a modern washroom and showers were developed on Clearwater's nicest beach. New park signs were developed for Clearwater Lake and for Gyles, Iskwasum and Reed Lake campgrounds in Grass River Provincial Park.

Wildlife

Negotiations continued with First Nations regarding need for sustainable harvesting practices as foundation of co-operative resource management agreements.

Development of an inter-provincial co-operative moose management strategy with Saskatchewan Environmental Resource Management and First Nation communities for Cumberland Delta and Saskeram Marshes is underway, to rebuild depressed moose population. Formation of a stakeholder advisory group to guide the development of woodland caribou management plans was initiated and a study of nuisance black bears is being completed.

Negotiations with industry and government to secure funding to continue woodland caribou research in west central Manitoba were successful.

Table RO.18

12.3(b) Northwest Region

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	2,155.6	46.15	2,275.4	(119.8)	
Total Other Expenditures	785.8		801.1	(15.3)	

Northeast Region

The Region administers programs and services for Crown lands, Provincial Parks, the environment, natural resources (wildlife, fisheries, forestry), public health, and wildfire protection. This includes development, delivery and evaluation of programs and services, and inspection, compliance monitoring, and enforcement of environment, resources and health legislation. This is done by multi-disciplined full-time and seasonal staff working from a Regional Office at Thompson, District offices at Churchill, Gillam, Thompson, Wabowden, Lynn Lake, Leaf Rapids, Norway House, Island Lake, and Gods Narrows, and sub-District offices at Split Lake, Nelson House, Pukatawagan, South Indian Lake, Cross Lake, and Oxford House.

The Region continued support of, and participation on, Nelson House, Split Lake, York Factory, and Norway House Resource Management Boards, Nelson River Sturgeon Co-Management Board, Beverly and Qamanirjuaq Caribou Management Board, and Wapusk National Park Management Board. Staff became involved on Cross Lake Resource Management Task Force.

Integrated Resource Management Team met regularly to evaluate land and resource-use applications.

Enforcement

Officers checked 2,067 anglers, 562 hunters (405 big game, 86 migratory bird, 71 upland gamebird), and 160 commercial fishermen. Staff inspected timber operations and most remote lodges, outcamps and tent-camp sites, and monitored campers and day-users in Parks, resulting in 70 prosecutions, 62 *Warnings* and 1 eviction.

313 *Timber Permits*, 313 *Work Permits*, 79 *Burning Permits*, and 31 *General Fishing Permits* were issued through District Offices.

Fisheries

Most commercial fisheries performed well. Playgreen Lake fishery again produced predominantly walleye. This was a whitefish fishery that, in recent years, has changed to a walleye fishery, likely due to introduction of rainbow smelt. Monitoring on this lake increased through co-operative program with Norway House Environmental Monitoring Agency.

A recovery plan for Setting Lake walleye stocks showed early signs of success. The community of Wabowden was instrumental in engendering public support for protecting Fish Creek spawning run. Test netting confirms that strong year-classes are entering the fishery.

Nelson River Sturgeon Co-Management Board continues stocking as a rehabilitation tool. About 20,000 fingerlings, raised at Grand Rapids Hatchery, were stocked at four locations on Nelson River, almost four times any previous stocking.

Forestry

40 *Work Permits* were issued for commercial timber harvest, primarily to Tolko Manitoba. Tolko and the Department planted 5,207,075 trees, and site-prepared 2,685 hectares for tree planting operations or to promote natural regeneration.

Community Urban Forestry Tree Plants were completed at Thompson, Paint Lake, Norway House, and Churchill.

In addition to Tolko's activities, there were five active *Timber Sales*. A new five-year, 125,000 m^3 *Timber Sale* was awarded to Jack Nelson River Corporation (Norway House).

Fire Management

289 wildfires consumed an estimated 79,329 hectares of woodland. Although fire numbers were about double that of last year, this was an average year. Losses of merchantable timber were relatively low; 44 fires consumed only 126.8 ha in Red Zone. Most fires occurred in Green Zone (166 fires, 36,151 ha burned), mostly in Lynn Lake and Leaf Rapids areas. 79 fires burned 38,366 ha in Observation Zone.

Most fires occurred over four short periods of time, due to extended drying conditions with lightning but very little precipitation: June 6-12 (86 fires); June 21-23 (39 fires); July 20-21 (28 fires); and July 30-August 7 (35 fires). Although most fires were extinguished while small (<2 ha), extreme burning conditions in June 21-23 enabled several fires to escape control. This required placement of an

Overhead Team and movement of additional resources and personnel into Lynn Lake and Leaf Rapids areas to assist suppression.

Fire suppression training to national standard (CIFFC) occurred in spring to ensure Initial Attack personnel were certified to this level. Training to a national standard allows fire personnel to be lent to other provinces for fire suppression. Two inter-provincial resource exchanges lent 12 personnel to Alberta, and 11 to British Columbia.

Provincial Parks

At Paint Lake Provincial Park, 43 transient electrical campsites were levelled and enlarged to better accommodate large, modern camping units. Boat launch facilities at the marina were also improved.

At Pisew Falls Provincial Park, improvements continued to the Pisew Falls to Kwasitchewan Falls Hiking Trail.

Wildlife

Polar Bear Alert Program in Churchill handled 142 bears, the largest number ever handled. 201 polar bear occurrences in the Control Zone were about 25% higher than average. Increase in captures was due to a large increase in number of family groups (females with cubs) in the area; preliminary investigations suggest this may be a result of climate change.

Outfitting continued to be prominent in wildlife programs. Six new operations were established by two lodges and four residents of local communities. There are 49 lodge and outfitting operations licensed, with a total non-resident hunting allocation of 158 moose licenses, 517 black bear licenses and 195 caribou licenses.

Thompson fur tables hosted 207 trappers from 31 communities, despite the economic uncertainties. Fur prices increased marginally and trappers sold 6,991 pelts for $262,500.

Revision of Cape Churchill Wildlife Management Area management plan moved closer to completion with focus on mapping gravel deposits and trail system in polar bear viewing areas, conducted with Mines Branch.

Lands

Mineral exploration activities regulated by *Work Permits* continued across much of the Region in winter. Geophysics and drilling activities for base metals and diamonds occurred in Lynn Lake, Leaf Rapids, Thompson, Gillam, and Gods Narrows Districts. Staff worked closely with Highways to address problems with winter roads. *Work Permit* conditions for winter roads were revised to incorporate environmental concerns. 16 communities are served by winter roads.

Treaty Land Entitlement process continued. Thirteen First Nations included in the *TLE Framework Agreement* are in the Region; eight have signed *TLE Agreements* and are making land selections.

Orphan Mine Site Program

Orphan Mine Site Program was initiated to address environmental health issues with un-rehabilitated mine sites in the north. The program extends over four years (2001-2005) and complements the *Orphan Mine Site Rehabilitation Program* by Manitoba Industry, Trade and Mines.

Lynn Lake Assessment

Site Specific Environmental and Human Health Risk Assessment for Lynn Lake was initiated, a comprehensive study to examine the risks of air and water emissions from East Tailings Management Area, formerly operated by Sherritt-Gordon Mines Ltd. (1953-1976). Community input is an important component. A consulting contract was awarded for the study.

Northern Waste Committee

Staff participated on a newly established Northern Waste Committee (NWC) to assist addressing solid waste management in the north. NWC comprises stakeholder groups and was created in response to the *Final Report of the Manitoba Regional Waste Management Task Force: Action Plan and Recommendations* (December 1999). The Committee examined issues and obstacles that hinder regionalized waste management planning.

North Central Development Corporation

Staff worked closely with North Central Development Corporation (NCDC) to develop and implement a regional recycling program in Nelson House, Norway House, Wabowden, Split Lake, Leaf Rapids, Gillam, and Fox Lake (Bird). A consultant retained by NCDC completed a model plan for each community to provide sustainable service to residents. Thompson Recycling Centre would be main collection hub.

Table RO.19

12.3(c) Northeast Region

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	2,188.4	50.88	2,594.8	(406.4)	
Total Other Expenditure	971.9		984.0	(12.1)	

Interlake Region

The Region administers programs and services for Crown lands, Provincial Parks, the environment, natural resources (wildlife, fisheries, forestry), public health, and wildfire protection. This includes development, delivery and evaluation of programs and services, and inspection, compliance monitoring, and enforcement of environment, resources and health legislation. This is done by multi-disciplined full-time and seasonal staff working from a Regional Office at Gimli and District Offices at Ashern, Birds Hill, Grand Beach, Gypsumville, Hodgson, Lundar, Riverton, Selkirk, and Winnipeg Beach. Interlake Region was formed by subdividing the former Central Region.

A total of 63 youths were employed in Green Team Program in Parks and Districts.

Enforcement

About 2,400 *Occurrence Reports* were received, of which over 1,100 were about problem wildlife, of which about 825 required action. The remainder, about 475 calls, were for fire suppression and other non-enforcement resource issues.

758 enforcement actions resulted in 440 charges, 235 *Warnings*, and 83 evictions from Parks. About 30% of charges were under *The Manitoba Fisheries Regulation* and about 10% under *The Provincial Parks Act*. Approximately $52,000 in fines and costs were assessed by the courts.

Drinking Water Initiatives

Drinking water continued to be an issue in some communities where private water wells were contaminated by coliform bacteria. *Boil Water Advisories* remained in effect for residents in Balmoral and Garson. An *Advisory* was issued for part of East Selkirk. These communities are working toward resolving these problems.

Interlake Region continues to work with Municipalities on solid waste management, fostering closure of unacceptable waste disposal sites and developing proper sites, or converting to waste transfer stations.

Staff continued work with livestock producers to ensure compliance with Regulations.

Fisheries

Start of Lake Winnipeg Commercial fishing season was delayed until 80% of female pickerel had spawned. The annual quota experiment on Lake Winnipeg was expanded to include Community Areas 6 (Dauphin River), 8 (Poplar River), 9 (Berens River) and 11 (Hollow Water). Lake Winnipeg Fisherman's Advisory Board was re-established and held its first meeting.

The 3" fishery on Lake Manitoba was confined to South Basin and operated 1 January to 28 February. The 3¾" fishery in North Basin was extended to 31March.

Interlake Region began integrating its fish habitat work with Fisheries and Oceans Canada; a large number of habitat issues were dealt with.

User participation continued on all commercial lakes, with fishermen involvement in hatcheries and index fishing programs.

Chitek, Inland, Archies and Crab Lakes fry stocking programs continued to yield marketable volumes of pickerel to Waterhen Lake fishers.

Table RO.20

Commercial Fish Harvest, Interlake Region (kg round weight)

Lake Manitoba	**Pickerel**	**Sauger**	**Perch**
1999-00	311,200	62,820	83,860
2000-01	411,700	27,900	86,460
2001-02	263,640	15,460	445,280
Lake Winnipeg	**Whitefish**	**Pickerel**	**Sauger**
1999-00	928,864	2,727,955	949,500
2000-01	1,360,000	3,614,500	845,500
2001-02	1,710,300	3,211,460	664,780

Freeze-up on Lake Manitoba was three weeks later than normal, delaying the start of the fishery and an reducing production of pickerel and sauger. The perch season, in January and February, showed a huge increase in production.

Lake Winnipeg Fishery continued to thrive, with production down slightly from last year's record levels.

Forestry

Timber harvest volumes were up slightly over last year, due to weather and markets. Colder than normal March temperatures allowed most Quota Holders to harvest to, or nearly, maximum allowable. Markets for were better than expected, with strong demand for softwood and hardwood logs and pulp from United States (northern Minnesota and North Dakota). Local markets purchased less due to uncertainty over the Softwood Lumber Agreement dispute with the U.S. Interest in hardwood is expected to increase as markets develop in Ontario and northern U.S.

Table RO.21

Timber Harvest, Interlake Region (m^3)

	FMU40	FMU 41	FMU 43	FMU 45	TOLKO	PERMITS	TOTAL
Softwood	6,552	11,160	-	2,300	-	625	20,637
Hardwood	1,755	1,418	5,327	1,250	-	1,000	10,750
Total	8,307	12,578	5,327	3,550	-	1,625	31,387

Table RO.22

Forest Renewal, Interlake Region

Area Renewed (ha)	1998-99	1999-00	2000-01	2001-02
Planted	460.0	362.9	311.4	137.4
Scarified	25.0	10.5	10.0	0.0
Trees planted	1,219,800	925,400	844,644	371,950
Site prepared* (ha)	248	255.3	88.0	0.0
Plantation area chemically released (ha)	194	0	36.7	270.0

* prepared for planting the following year.

213,480 seedling trees were snow-cached for planting in spring 2002.

54 fires were actioned, 3 caused by lightning and 51 human-caused, burning 2,747 ha.

Lands

Staff assessed about 95 applications for Crown Lands, including for *General Permits*, *Work Permits*, *Leases*, sales, appeals, exchanges and *Quarry Leases*. The Region received 160 applications for Crown *Quarry Permits,* 3 new snowmobile trail proposals, 45 Resource-Based Tourism Facility applications, 20 policy and planning reviews, 160 private land subdivisions, 219 *Water Rights License* applications, 15 large livestock proposals, 65 Operational Land Use Code amendments, 15 municipal planning reviews/By-law Amendments and 7 ***Environment Act*** *License* proposals. Treaty Land Entitlement reviewed tentative land selections for Peguis First Nation. These numbers include land activities in Red River Region.

Provincial Parks

Birds Hill Park completed cleanup, leveling and sanding of the family beach area. Folk Festival at Birds Hill drew 39,000 patrons, another very good year.

Beach Safety staff at Birds Hill, Grand Beach and Winnipeg Beach Parks estimate 894,200 people used these beaches, averaging 9,110/day. Grand Beach accounts for 86.76% of the total, Birds Hill for

9.22%, and Winnipeg Beach for 4.02%. *Grand Beach Management Plan* was completed. Terms of reference and a steering committee will be initiated for *Birds Hill Management Plan*.

92 special events were hosted in Parks.

Water Management

This report encompasses activity in Interlake, Red River, and Eastern Regions. 348 *Water Rights License* applications were received and 353 drainage concerns or complaints were investigated. Municipalities were assisted with water management projects. 124 *Water Right Licenses* were issued, as were 95 *Letters of Approval* for drain cleanouts. Monthly meetings were held with 9 Water Management Associations to discuss drainage concerns, licensing, and proposed water management projects (Roseau River International, Fisher, Western Interlake, Northeast Interlake, Southeast Interlake, Northeast Agassiz, Southeast, Northwest Red and Plum River).

Provincial Waterways (drains) were maintained and crossings repaired or replaced by staff or tendered contract. Dams were operated to regulate water levels within desirable range. Control structures were operated on La Salle River diversion, Fairford River Dam, Portage Diversion, and Red River Floodway. Refurbishment and upgrading work continued on Red River Floodway inlet control structure and on Red River Valley town dykes.

Wildlife

The Department is working with Manitoba Hydro, Centra Gas and Narcisse Snake Mortality Advisory Group, since 2000, to reduce snake mortality on Provincial Highway 17, adjacent to Narcisse Snake Dens. The tunnel and barrier-fence system was expanded to 10 culverts, covering most of the migratory corridor, reducing snake mortality by 75%. The Department, with Manitoba Intergovernmental Affairs, hosted a Community Roundtable Workshop to gather public input to assist planning management, conservation, and tourism development of garter snake dens in this area.

Eight quarters of prime wildlife habitat in Broad Valley-Sleeve Lake area were acquired by exchange with Manitoba Agriculture and Food. These lands are especially important to sustaining Kilkenny elk herd in central Interlake, and will be added to Sleeve Lake Wildlife Management Area.

Co-operation continues with Skownan First Nation to manage and protect a wood buffalo herd at Chitek Lake, 50 kilometers north of Skownan. The herd, estimated at 125 animals, is projected to grow by 400 by 2007. Prescribed burns and placement of range salt enhance habitat.

Table RO.23

12.3(d) Central (Interlake) Region

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	3,744.4	70.63	3,358.9	385.5	
Total Other Expenditures	1,342.6		1,437.7	(95.1)	

Eastern Region

The Region administers programs and services for Crown lands, Provincial Parks, the environment, natural resources (wildlife, fisheries, forestry), public health, and wildfire protection. This includes development, delivery and evaluation of programs and services, and inspection, compliance monitoring, and enforcement of environment, resources and health legislation. This is done by multi-disciplined full-time and seasonal staff working from a Regional Office at Lac du Bonnet and District Offices at Beausejour, Bissett, Falcon Lake, Hadashville, Lac du Bonnet, Lake Winnipeg East, Pine Falls, Rennie, Seven Sisters, Sprague, Piney, and West Hawk Lake, and Sub-District Offices at Berens River and Little Grand Rapids.

Enforcement

Of 2,344 *Occurrence Reports*, 978 were problem wildlife (59 beaver, 681 bear, 12 big game, 21 wolf, 3 migratory birds, 202 other), 797 were regulatory, and 569 were non-regulatory.

Officers checked 11,295 anglers, resulting in 37 charges and 40 *Warnings*. 2,964 hunters were checked with 40 charges and 8 *Warnings*. There were 119 charges, 197 *Warnings* and 262 evictions under ***The Provincial Park Act*** and Regulations.

Fisheries

A Geographic Inventory System of 8,739 waterbodies was created.

Fish stocks were assessed in Lac du Bonnet, Black, Shoe, Tooth, Falcon, and Crowduck Lakes. Angler catch statistics were monitored on 99 waterbodies with Regulation compliance averaging 95%. 52 waterbodies were stocked with 4,665,000 walleye fry, 1,800 walleye fingerlings and 367,417 trout fingerlings (70,000 rainbow, 19,000 brook, 23,325 brown, 235,000 lake, 10,000 splake, and 10,092 arctic char).

Monitoring of biological effects of the walleye slot size regulation (introduced in 2001) was conducted in three different indicator lakes in Nopiming and Whiteshell Park, indicating increased harvest of most walleye populations. Public feedback on this was also positive, with anglers reporting improved walleye catches on many different lakes.

A biological study completed on Brokenhead River, part of the mandate of the new Brokenhead River Restoration Committee, identified numerous sites for habitat restoration.

About 200 adult sturgeon were tagged in Winnipeg River between Slave Falls and Seven Sisters. Exploratory meetings with Sagkeeng First Nation began to identify goals and objectives for long-term joint management planning to sustain sturgeon stocks on the river.

A new aquatic habitat inventorying format was developed with Tembec, part of their annual planning. About 200 development proposals and activities affecting aquatic resources were reviewed.

Forestry

63 forest fires (80% human-caused) burned 564 hectares. No major fires occurred in fire season.

Monitoring and reconciling Tembec's Annual Operating and Renewal Plans with their field operations continued to be a major activity.

The Region was responsible for planting 1.89 million seedlings and preparation of over 1,100 ha for forest renewal sites, primarily in southeast and, secondarily, in Berens River area.

Construction was completed of $124 million thermal mechanical pulp (TMP) mill to replace the groundwood and sulphite pulping process at Tembec (Pine Falls). The mill will bring several environmental benefits, including reduced air emissions and improved effluent.

Provincial Parks

Parks continue to be well attended: visitor counts increased by an average of 12.2% for the two major road-accessible Parks.

Falcon Lake ambulance service experienced another busy year, responding to 180 calls and transporting 36 people to hospital.

Park facility upgrading continued throughout the Region with completion of Falcon Lake sewage lagoon's final phase, final upgrades to primary water and sewer lines in Falcon Lake townsite, opening 12 new lakeshore campsites at Brereton Lake, and upgrading beach buoy markers at beaches throughout Nopiming. Trail development continues on South and North Whiteshell trails, both part of Trans-Canada Trail.

Wildlife

Two major stakeholder and First Nation co-operative management committees continue:

- Committee for Moose Management (CMM) provided a critical advisory function to the Department on forest access management and hunting closure criteria. Meetings with First Nations and stakeholders resulted in ongoing management of closed hunting areas (to all people) for moose rehabilitation in traditionally-used areas.
- Eastern Region Woodland Caribou Management Committee engaged in significant research and management initiatives involving development conservation strategies for Owl Lake range. New research being conducted in the northern part of the Region will assist development of conservation strategies for East Side planing initiative, First Nations, East Side Road and potential hydro corridor development.

Staff continue to service a full range of clientele, including First Nations, trappers, hunters, forest industry, non-governmental organizations, wildlife associations, communities, and individual requests. Several hundred requests for information about wildlife, land and habitat issues were dealt with.

With the support of the *Canada/Manitoba Infrastructure Program*, the Rural Municipality of Brokenhead is proceeding with a municipal water and sewer infrastructure project that will service the communities of Garson, Tyndall and Henryville. An Environment Act Proposal was filed with Manitoba Conservation in April 2002 and is currently under review. The *Boil Advisory* issued to the Village of Garson and the UVD of Tyndall in 2000 remains in effect.

Water Management

Information on water management is included in the report for Interlake Region, above.

Environment/Public Health

Lake Nutimik Baptist Camp *Boil Order* was rescinded following construction of a water treatment facility, that treats water through coagulation, sedimentation, filtration, and chlorine disinfection.

Boil Advisories were issued on four drinking water systems due to bacteriological contamination: Poplar Avenue Water Supply (Great Falls), Wendigo Trailer Association (RM of Lac du Bonnet), Brereton Lake Campground (Whiteshell Provincial Park), and Red Rock Bible Camp (Whiteshell Provincial Park).

Two waste transfer stations in R.M. of Lac du Bonnet were opened, coinciding with closing the Municipality's Waste Disposal Ground (still being decommissioned). Solid waste is transferred to R.M. of St. Clements' Waste Disposal Ground.

Table RO.24

12.3(e) Eastern Region

Expenditures by Sub-appropriation	Actual 2000/01	Estimate 2000/01		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	3,420.8	72.72	3,386.5	34.3	
Total Other Expenditures	924.2		969.5	(45.3)	

Western Region

The Region administers programs and services for Crown lands, Provincial Parks, the environment, natural resources (wildlife, fisheries, forestry), public health, and wildfire protection. This includes development, delivery and evaluation of programs and services, and inspection, compliance monitoring, and enforcement of environment, resources and health legislation. This is done by multi-disciplined full-time and seasonal staff working from a Regional Office at Brandon, Subregional Offices at Dauphin and Swan River, water engineering offices at Neepawa and Minitonas, and District Offices at Brandon, Dauphin, Boissevain, Carberry, Grandview, Killarney, Mafeking, McCreary, Neepawa, Roblin, Shoal Lake, Swan River, Virden, and Winnipegosis.

Enforcement

Resource Officers continued work with livestock producers to reduce numbers of livestock injured or killed by wildlife.

Officers checked 3,930 big game hunters, 332 migratory bird hunters, 253 upland game bird hunters, 8,148 recreational anglers, 211 commercial fishers, 255 domestic fishers and 484 nets. The Region made 437 off-road vehicle checks.

There were 5,539 *Occurrence Reports*, up 2,212 from last year: 2,713 for problem wildlife, 1,976 regulatory, and 850 non-regulatory.
Wildlife checks resulted in Officers checking 863 deer, 303 moose, 340 elk, 30 bear, 88 upland game bird and 193 waterfowl hunters. 30 outfitters, 66 trappers, 14 taxidermists, 6 fur dealers and 206 Treaty Indian hunters were also checked.

Two fire investigations were conducted. 10 investigations were carried out on illegal use of Crown lands. 12 patrols were conducted on SnoFund trails.

Fisheries

Lake Winnipegosis fishery production, summer and winter seasons, exceeded 2,000,000 kilograms for third consecutive year. Mullet continues to constitute most (70%) of production.

Walleye production declined over last four years and was based primarily on three and four year-old fish.

Protection of habitat through environmental reviews of landuse proposals, funding applications, and maintenance activities adjacent to water, remains a major activity.

Stocking continues to be integral to fisheries management. About 9,000,000 walleye fry and 500,000 trout fingerlings were stocked. A new user-group initiative, Fish and Lake Improvement Program for the Parkland Region, completed evaluation of more than 35 lakes for trout stocking.

Consequently, aeration systems are being designed for Patterson and West Goose Lakes, two new stocked trout fisheries.

Index netting was completed on Winnipegosis, Dauphin, Wahtopanah, and Oak Lakes, and Lake of the Prairies, as was test netting on many smaller waterbodies. This annual activity updates the database and assists evaluating management activities and effectiveness.

Exceptionally high harvest levels on Lake of the Prairies and Dauphin Lake resulted in a *Conservation Closure* being implemented for Dauphin Lake.

Forestry

100 *Work* Permits were issued for timber harvest and renewal on about 180 harvest blocks in Mountain Forest Section. The Region planted 931,400 seedlings on 573.5 hectares of cutover.

Provincial Parks

Transient and seasonal camping numbers were generally consistent with previous use. Transient camping increased by 3%. Use of Park Reservation Service by campers increased.

Riverbank stabilization continued at Spruce Woods Park, where the buffer between Assiniboine River and the campground road was threatened by longer high-water periods in recent years.

A new campground office/entrance station, constructed at Spruce Woods, was installed at Stephenfield (now part of Red River Region).

Pembina Valley Provincial Park was officially designated (now part of Red River Region).

Construction of a new District office at Carberry was completed.

Water Management

Engineering staff were busy with flood fighting and monitoring activities. Activities included routine maintenance and modest flood repairs on Provincial Waterways and dams. Two major bridge replacements, one south of Oak Lake on Plum Creek, and another on Edwards Creek near Dauphin, were started late in the year, but not completed. Slumping of downstream slope of Upper Dam in R.M. of Hillsburg was stabilized.

Water Rights staff continued to undertake investigations, enforcement and licensing of drainage under ***The Water Rights Act***.

Whitemud Watershed Conservation District was assisted in a very successful two-year pilot project.

Drainage license applications and complaints resulted in 7 written *Warnings*, 9 enforcement notices and one *Emergency Ministerial Order*. Four charges were also laid, resulting in fines of $1,000 and $1,200 for two of these charges.

Staff participated in watershed planning with Oak Lake Aquifer Management Plan implementation, Assiniboine Delta Aquifer Management Plan, and Three Creeks Watershed group.

Wildlife

Completed first year of Bears and Bees project in Ethelbert area. Six outfitters installed 20 electric fences around chronic beeyard depredation sites for a honey producer. Nuisance bear harvest was significantly reduced, no fences were breached by bears, and honey profits increased.
Conducted Chronic Wasting Disease surveillance in the white-tailed deer population of the extreme west included over 400 deer heads collected from hunters at checkstations in Virden, St. Lazare, Russell and Roblin.

Began implementation of Bovine TB action plan around Riding Mountain National Park. Eight barrier fences installed around cattle producer hay yards at chronic elk depredation sites. Elk research began, with 40 elk being captured by helicopter net-gun in the Park and monitored with radio collars to determine movements.

Douglas Marsh *Important Bird Area* Community Conservation Plan initiated. Two interpretative signs and brochure developed.

Management of Mixed Grass Prairie Stewardship program in Carberry area with 32 landowners currently registered. Prairie Enhancement program initiated.

Major wildlife impact assessments included reviews of about 180 Timber Harvest Blocks identified in Louisiana-Pacific and Mountain Quota Holders Annual Operating Plans.

Elk depredation was reduced in part to reduced numbers, good weather conditions, and use of mountain feed sites and elk exclosures.

Winter Beaver Program, welcomed by Rural Municipalities and Registered Trappers, was initiated and highly successful: 6,660 beaver taken (compared to 3,849 beaver taken in Summer Program).

Wild horse herd in Lost River area seems to maintain a steady population of around 20 animals.

Coyote population remained high with a high number of complaints received.

Lands

502 *General Permits/Leases/Vacation Home Permits* were issued and reviews conducted of 54 Crown land sales, 174 private land subdivisions, and 35 intensive livestock operations.

Boissevain Wildlife Management Area

Additional interpretative signage was acquired for Whitewater Lake Wildlife Viewing site, a Heritage Marsh and recognized under the Important Bird Area (IBA) program. Staff worked with local interest group to develop a proposal for funding under IBA. The proposal will focus on interpretation and education in local schools.

Signage was developed and purchased for Brandon Hills Wildlife Management Area recreational trails.

Preliminary discussion about developing a wildlife viewing site at Proven Lake Wildlife Management Area, that would tie into Trans Canada Trail system.

Mixed-grass Prairie Grazing Demonstration Project

Staff continued involvement in Mixed-grass Prairie Grazing Demonstration Project in co-operation with agencies including Manitoba Habitat Heritage Corporation, Ducks Unlimited, Conservation Districts, and Manitoba Agriculture and Food. Co-ordinated through the Critical Wildlife Habitat Program, this project is aimed at promoting preservation and proper grazing management of mixed-grass prairie. Several cattle producers are involved.

Inspection/Enforcement, Public Health, Dangerous Goods Handling

Region headquarters at Brandon, subregional offices at Dauphin and Brandon; 3 sub-offices in Swan River, Killarney and Virden, administer and manage the Environment, Public Health, Dangerous Goods Handling and Transportation and the Livestock programs. Staff conduct inspection and enforcement.

Licensing/Waste Disposal

Operation and maintenance of Waste Disposal Grounds continues to improve.

Proposed ***Environment Act*** *Licenses* were reviewed using risk-based management.

In respect of Springhill Farms liquid waste disposal, the Department was instrumental in establishing an agreement between Town of Neepawa, Water Services and Springhill Farms. Several Hutterite Colonies constructed wastewater treatment lagoons, and two other colonies filed proposals.

Emergency Response

Following Prairie Forrest fire (Minnedosa), all contaminated soils and other materials were removed from the site; groundwater monitoring continues.

Staff developed protocols using risk-based management to meet wastewater treatment objectives.

Public Health

Staff participated in swimming-beach monitoring program, and monitored lakes with blue-green algae *Advisories*.

Staff maintained a high monitoring role over operation of public and semi-public water supplies.

Cryptosporidium outbreak investigation was conducted at a Dauphin dance competition, with probable linkage to local swimming venues.

Four public water systems were found to be contaminated; *Boil Orders* were issued.

Continued delivery of *Food Safe* Program with Assiniboine Community College, producing over 200 graduates.

Dangerous Goods Handling and Transportation

Spring and fall anhydrous ammonia transportation and handling enforcement was conducted.

Region staff assisted Mountain forestry operators on action plan to comply with *Gasoline and Associated Products Regulation*.

Livestock Production Operations

Assisted Technical Review Committee consideration of 23 livestock proposals. Issued 24 *Permits to Construct* for manure storage facilities and inspected each site at least three times. Conducted 65 annual inspections on existing manure storage facilities.

Staff managed environmental requirements with agricultural diversification, particularly manure management in the hog sector.

Table RO.25

12.3(f) Western Region

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	5,258.9	108.25	5,287.4	(28.5)	
Total Other Expenditures	1,793.2		1,817.4	(24.2)	

Red River Region

Red River Region, formed by subdividing the former Central Region and re-aligning the boundaries of Eastern and Western Regions, is based in Winnipeg, with District offices in Portage la Prairie, Manitou, Winkler, Morris, Steinbach and Winkler. The Region's water management program maintains fulltime offices at Grosse Isle, Floodway and Morris.

The Region is unique in that it includes most of Manitoba's population, and most of the land is in agriculture. Staffing and program priorities focus on environmental monitoring and compliance.

The mix of agricultural and urban land uses, with relatively flat terrain and poorly-drained soils, present unique challenges for Provincial Waterway management and drainage licensing. To co-ordinate water management, responsibility for drainage and waterways was assigned to one Region Water Manager. In this introductory year, some program areas, particularly in resources management, continued to be conducted by other Regions for at least part of the year.

Environmental Management System

Region staff implemented this new computer information management system by developing a training program, training staff, and data entry. 6,300 regulated facilities were added to the database.

Rothsay/Maple Leaf Foods

Staff initiated and participated in an Alternate Dispute Resolution (ADR) process between Rothsay, a major rendering processor, and adjacent residents, to address odour emissions. Clean Environment Commission facilitated the sessions, resulting in a major upgrade to odour control at the plant.

City of Winnipeg

Staff participated in committees with the City of Winnipeg to address such environmental health issues as potable water supply, sewage effluent quality, biosolids disposal, and smoking bylaw enforcement.

Possible Food- or Water-Borne Illness

Staff investigated two major outbreaks of gastrointestinal illness in Steinbach District, one among residents of a seniors housing complex, and the other in students and staff of a Grunthal school. Staff investigated possible sources in food service, water supplies, and building environment, with Manitoba Health and South Eastman Health. Both outbreaks were viral and not attributed to food or water.

Enforcement

About 1,800 *Occurrence Reports* were received, of which about 900 were about problem wildlife and about 450 required enforcement action. The remainder, about 450 calls, were for fire suppression and other non-enforcement resource management.

Provincial Parks

A summer storm caused significant damage to vegetation and infrastructure at St. Ambroise campground. Fortunately, no campers were injured. Cleanup occurred through the rest of the year and several campsites were closed.

Manitoba's newest Provincial Park, Pembina Valley, opened. It illustrates unique ecosystems and serves as an important spring staging area for several raptors species, most notably red-tailed hawks.

Livestock Permits

Permits were issued for construction or alteration of 50 livestock waste storage facilities in Red River and Interlake Regions.

Lands

Statistics for land dispositions and reviews are included with those for Interlake Region, above.

Water Management

Information on water management is included also in the report for Interlake Region, above.

Surface Water

Drains were maintained and crossings repaired or replaced by staff or tendered contract. Dams were operated to regulate water levels within desirable range. Control structures were operated on La Salle River diversion, Fairford River Dam, Portage Diversion and Red River Floodway. Refurbishment and upgrading work continued on the Red River Floodway inlet control structure and on Red River Valley town dykes. Reconstruction work continued on Netley Creek as part of a multi-year capital project.

Information on *Water Rights Licences* issued in Red River Region has been combined with that for Interlake Region, above.

Table RO.26

12.3(g) Red River Region

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	3,337.9	85.53	4,639.3	(1,302.2)	
Total Other Expenditures	1,223.2		1,327.0	(103.8)	

Office of Drinking Water

The Office was established during the year in response to the Drinking Water Advisory Committee (DWAC) *Report* with five positions (two engineering, two technical, and one clerical), to:

- co-ordinate activities of the Drinking Water Program.
- communicate with the public and other government jurisdictions on these activities.
- provide an effective centrally-co-ordinated drinking water program across Regions.
- ensure provision of safe, adequate, and acceptable public drinking water supplies.

Fire Program

538 fires burned 78,913.4 hectares, just above the long-term average of 525 starts, but well below the long-term average of 358,425 hectares burned. The spring started with earlier-than-normal fire starts, due to warm, dry winter, but spring rains reduced the hazard. The most serious fires occurred in late June and early July in the Lynn Lake district of Northeast Region, resulting in dispatch of a provincial fire team.

2001 Fire Season

Light snowfall in most areas, followed by below-normal precipitation in March and April, created ideal conditions for spring wildfires. First fires actioned were in mid-April and, by April 30, 52 fires had consumed an estimated 1,903 hectares. 35 more fires were fought by May 7, when rain occurred over most of the south. Human-caused wildfire starts in and outside the Burning Permit Area kept Department crews and local fire departments busy on the urban/agro/forest interface. Losses were largely confined to grass and scrub brush.

Drought conditions continued in northwest, extending from The Pas up into the Lynn Lake area and, by end of May, 101 fires had been reported. A rash of lightning starts resulted in 101 starts in June 6–11, the busiest period of the season. Crews in the north continued to combat fires through the month, with another 37 starts on June 22 and 23. By end of June, 301 fires had consumed an estimated 62,801 hectares. Fires continued to be detected and actioned during July with 43 starts on July 23 and, by the end of July, 407 fires had been reported with a burned area of 70,568 hectares. During August, September, and October, new starts were reported and actioned, last lightning fire occurred in last week of October.

Fire Program uses seven CL-215 waterbombers, three Cessna 310 Bird Dog aircraft and three single engine Otter aircraft, operated by Manitoba Government Air Division. In addition, the Province seasonally contracts one Bell 206 Long Ranger, one Bell 204 and three Bell 205 helicopters from private operators. Through Standing Offers, the Program casually contracts additional helicopters and fixed-wing aircraft as needed.

Air operations staff continued to work closely with Manitoba Aerial Applicator Operators to enhance their capability to deliver long-term fire retardant. There is a need, during spring ice breakup, to have an air tanker resource when the ice prevents refilling waterbombers from lakes, employing 12 aircraft (5 Dromaders and 7 Air Tractors), equipped with a Hatfield fire gate, and 2 forward attack bases. The forward bases are used for loading the aircraft with long-term fire retardant. Eight of these aircraft were utilized at any time in April out of Steinbach, Lac du Bonnet, Gypsumville and Swan River airports, and in June, 4 of these aircraft were positioned at Leaf Rapids airport where they were able to action multiple fire occurrences. These aircraft, when deployed, were controlled by an Air Attack Officer on board a Bird Dog aircraft, and flew about 230 hours to drop retardant.

Use of chemical fire retardant and suppressants continued. The contractor installed a bulk tanking system at Gimli airport and chemical was trucked from this facility to the forward attack bases. 52,500 kilograms of retardant was purchased along with 20,000 gallons of foam for CL 215 operation.

Field tests continued on 2-piece Nomex protective clothing for its Initial Attack (IA) staff. Modular tents were purchased. A new fire command trailer was constructed. Headquarters staff, in conjunction with field working groups, updated heavy equipment hiring procedures, developed and deployed liaison kits, and continued to revise fire equipment cache levels.

Fire training concentrated on IA crews. A crew-boss session was held in spring. In co-operation with Transport Canada, helicopter safety sessions were held at several IA bases. Most crewmembers have now received first-aid training required by Workplace Health and Safety Regulations, and most IA staff have been certified to CIFFC national standards.

A fire-prevention radio blitz included a commercial aimed at spring burning and a second at being careful in wooded areas. These commercials were run in spring, in first part of June, and during the fire period at end of July.

The Fire Program Website provided up-to-date data for the media and public. Information is automated from National Fire Information System database, with daily weather forecast and fire updates added manually.

Equipment and personnel are shared with other jurisdictions in Canada under the *Mutual Aid Resources Sharing Agreement*. The Northwest Territories provided aircraft for suppression. Fire Suppression staff and IA crews were deployed to Alberta, Ontario and British Columbia. Manitoba assisted Ontario with a CL-215 waterbomber group to the Sudbury area and quick-strike missions to Saskatchewan and Ontario along provincial boundaries. Fire pumps were loaned to Banff National Park.

Below-normal precipitation since October heightened threat of early-spring fires in 2002. Most western Canada winter precipitation was 25-75% of normal; drought conditions extend from Swan River north to Lynn Lake and east to Thompson area. Dry areas are reported in Interlake and southeast.

Table RO.27
12.3(h) Fire Program

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	4,683.0	58.69	4,839.3	(156.3)	
Other Expenditures	7,372.1		7,792.9	(420.8)	

Table RO.28

Number of Fires and Area Burned by Region and Cause

	Northeast		Northwest		Western		Central		Eastern		Province	
CAUSE	# fires	area burned (hectares)	# fires	area burned (hectares)	# fires	area burned (hectares)	# fires	area burned (hectares)	# fires	area burned (hectares)	# fires	area burned (hectares)
Recreation	17	134.1	11	613.9	6	785.4	3	57.7	13	7.1	**50**	**1,598.2**
Settlement	9	26.4	1	0.2	7	202.1	51	1,760.1	8	7.4	**76**	**1,996.2**
Woods operations					1	0.1					**1**	**0.1**
Other industry	1	0.5	1	0.4	3	633.7			3	22.5	**8**	**657.1**
Railroads	2	0.2	7	20.0	1	177.7			4	174.7	**14**	**372.6**
Public projects	1	0.1	1	39.9							**2**	**40.0**
Incendiary	38	42.6	5	3.1	3	18.7	7	92.3	9	21.3	**62**	**178.0**
Miscellaneous	2	4.0	3	7.6					10	3.8	**15**	**15.4**
Agricultural					3	91.1			3	23.0	**6**	**114.1**
Lightning	219	73,658.2	57	161.9	14	13.2	1	1.0	13	107.4	**304**	**73,941.7**
all causes	**289**	**73,866.1**	**86**	**847.0**	**38**	**1,922.0**	**62**	**1,911.1**	**63**	**367.2**	**538**	**78,913.4**

Table RO.29

Number of Fires and Area Burned by Priority Zone and Action Status

	Actioned Fires				No Action Fires				Limited Action Fires				All Fires			
ZONE	# fires	% fires	Area burned (hectares)	% of area burned	# fires	% fires	area burned (hectares)	% of area burned	# fires	% fires	area burned (hectares)	% of area burned	# fires	% fires	area burned (hectares)	% of area burned
Red	271	59.4	4,374.4	13.0	2	2.7	1.2	0.0	1	14.3	0.1	0.0	274	50.9	4,375.7	5.5
Yellow	2	0.4	779.8	2.3									2	0.4	779.8	1.0
Green	166	36.4	27,023.0	80.1	22	29.3	15,704.0	35.6	2	28.6	711.9	64.3	190	35.3	43,438.9	55.0
White	17	3.7	1,569.1	4.6	51	68.0	28,354.3	64.4	4	57.1	395.6	35.7	72	13.4	30,319.0	38.4
All Zones	456	100	33,746.3	100	75	100	44,059.5	100	7	100	1,107.6	100	538	100	78,913.4	100

Figure 3. Number of Fires

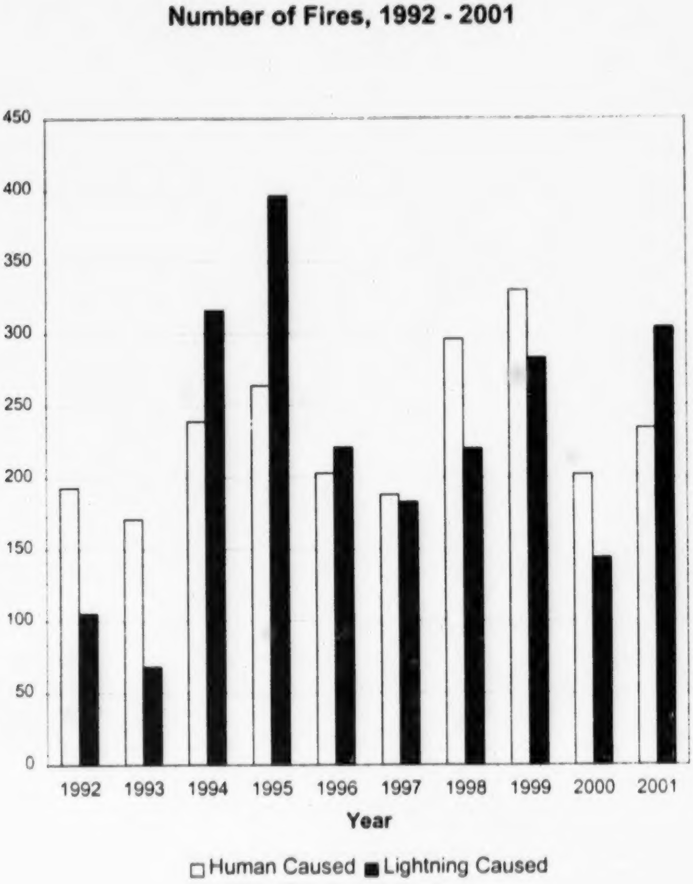
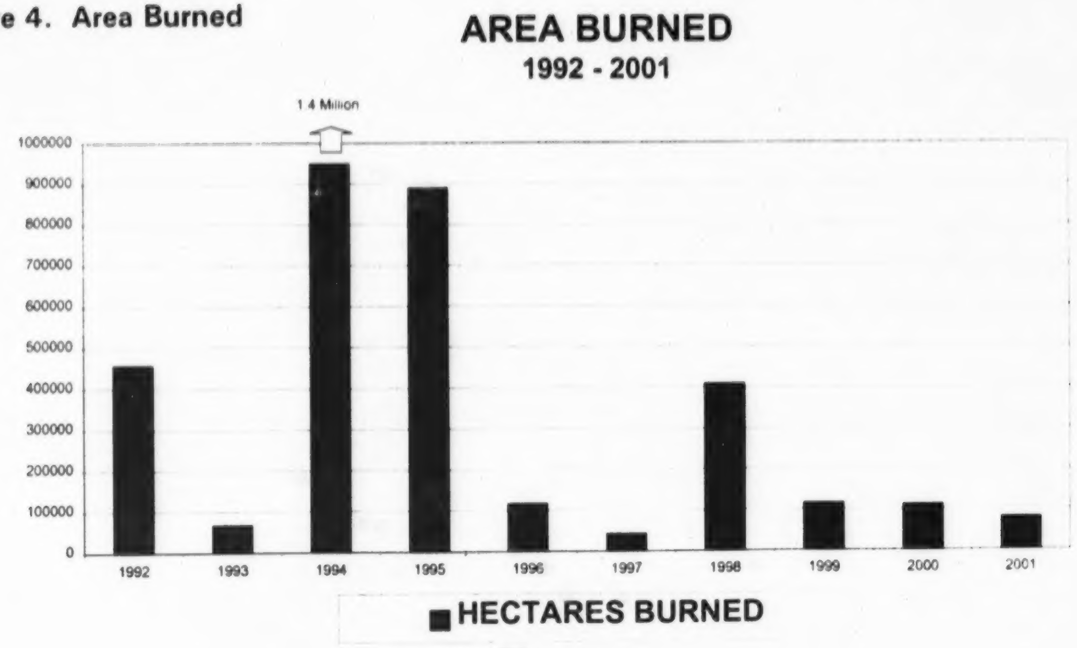


Figure 4. Area Burned



Chapter 6

Conservation Programs Administration

Divisional administration provides strategic management of Manitoba's natural resources and environment (water, air, Parks, lands, forests, fish, wildlife, and energy) in keeping with the principles of sustainable development. This includes promotion of energy efficiency and diversification, and activities promoting pollution prevention.

Conservation Programs Division comprises:

- Geographical Names Program
- Water Management Branch
- Parks and Natural Areas Branch
- Climate Change Branch
- Forestry Branch
- Fisheries Branch
- Wildlife Branch
- Terrestrial Quality Management Branch
- Pollution Prevention Branch
- Lands Branch

Geographical Names

The Program embraces active preservation of Manitoba culture through its toponymy, developing a geographical names database and associated publications, for recording and disseminating authoritative toponymic data. The Program represents interests of all Departments and agencies, and provides consultation services to senior management and external clients. Staff represent Manitoba on the Geographical Names Board of Canada and its advisory committees.

Responsibilities include managing historic and current names, maintaining a names database, distributing toponymic information, developing and implementing policies and procedures for geographic naming, establishing and monitoring toponymic quality control in government documents, researching and processing decisions on new and established names, managing the Commemorative Names project, and participating in a student/volunteer training and development project.

Table CP.1

Geographical Names Program

		2000-01	2001-02
New geographical name decisions (pending decisions = 193)		103	63
Commemorative Name Certificates issued		102	102
Ministerial letters drafted and distributed with Certificates		70	83
Toponymic quality control tasks		87	166
Responses/inquiries made by:	Correspondence, Fax	521	3242
	Telephone	1,058	1,301
	Visitors to office	91	114
	E-mail	1,936	3,311

The new publication, ***Geographical Names of Manitoba***, containing historical and geographical descriptions of nearly 12,000 natural features, settlements, ghost towns, and trails, was well received by government and public. Staff were involved in special events relating to release and distribution.

Commemorative Names Project

17 geographical features were named after Merchant Mariners from Manitoba who were lost during the Second World War, and seven were named after World War I Victoria Cross winners, including Lt. Alan A. McLeod, V.C. and Lt. Col. William 'Billy' Barker, V.C.

Staff and volunteers received excellent response from families for biographical details, personal stories, and photographs towards production of a publication entitled, *A Place of Honour, Manitoba's War Dead Commemorated in its Geography*. This publication will open a window on our war casualties to explore the fullness of their lives and personalities, instead of the usual statistical references.

Other activities included:

- Participation on the Working Group of the Toponymic Data Architecture Standards of the Canadian Geospatial Data Infrastructure (CGDI), an initiative facilitated by GeoConnections. CGDI is the technology, standards, access systems, and protocols necessary to harmonize all of Canada's geospatial databases, and make them available on the Internet. Staff completed the first stage in developing a national prototype for Canadian Geographical Names Service, thus establishing Manitoba as a leader in providing this data via the Internet.
- Progress was made towards translation into French of *Geographical Names of Manitoba* and related publications.
- Participation at monument-unveiling ceremony commemorating significance of Winnipeg River as first boundary of Assiniboia, and the eastern of Manitoba's earliest boundaries as the "postage stamp" province.

Table CP.2
12.4(a) Divisional Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	459.8	5.00	305.2	154.6	
Other Expenditures	1685.4		140.1	1,545.3	

Chapter 7

Water Management

The Branch manages surface water and groundwater resources to provide for the health and safety of present and future generations as well as their social, cultural and economic wellbeing. The work is done co-operatively with other Branches and Departments, other levels of government, private organizations, special-interest groups and the public.

The Branch:

- Fosters optimum development and use of surface and ground waters, while sustaining the resource and maintaining environmental quality.
- Seeks to achieve an adequate level of flood protection to people and property.
- Works to ensure an effective and comprehensive agricultural drainage system, to enhance economic viability of agriculture while respecting environmental criteria and ecosystem values.
- Constructs, operates and maintains provincial water supply and control-and-conveyance works to optimize use, and minimize economic and environmental damages.
- Ensures that regulatory controls are applied and developments are planned so that optimum uses are not impaired and that damage to water quality, property and the environment is minimized.
- Monitors condition, use and development of resources and maintains comprehensive and accessible water-management databases.
- Enhances the public's awareness and knowledge of water resources.

Administration

Staff ensured sustainable development, allocation, and conservation of water resources by:

- Maintaining adherence to policy and procedures.
- Controlling funding.
- Negotiating contracts.
- Monitoring efficiency and effectiveness of expenditures.

Table WM.1

12.4(b)1 Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	346.9	7.00	312.9	34.0	
Other Expenditures	658.9		2,157.0	(1,498.1)	
- Grant Assistance	0.0		25.0	(25.0)	
Total Other Expenditures	658.9		2,182.0	(1,523.1)	

Water Licensing

The Section contributed to sustainable development of water resources by licensing and enforcement of water-use and water-power projects.

Water Use Regulation

Implementation of water allocation plans continued for Winkler, Assiniboine Delta, and Oak Lake Aquifers, and south-central Manitoba (Agassiz Irrigation Association area). Development of plans for Assiniboine River, Whitemud River and tributaries, and Boyne River continued.

Administrative policies and procedures concerning licensing under ***The Water Rights Act*** were developed and/or clarified. Implementation of a "use it or lose it" policy, as provided under the ***Act***, continued as part of the strategy to address licensing backlog. The ***Act*** and policy provide for amendment or cancellation of *Licences* if works are not constructed, or if water is not used in amounts or for purposes specified, in the *Licence*. Applicants for *Licences* were contacted to determine status of their projects. This permitted 160 files to be closed.

The Section participated in water management planning for Assiniboine Delta Aquifer. Computerized water balance models were developed for allocation planning for surface sources in south-central Manitoba (Agassiz Irrigation Association area). Fees were assessed and collected for industrial use.

Table WM.2

Water Use Regulation

Applications received for *Licences*	Surface Water	Groundwater
Applications for renewal of *Licence*	9	27
Applications for new *Licence*	41	92
Total number of applications received	50	119

Licences issued by type	Surface Water	Groundwater
Domestic	1	1
Municipal	5	2
Agricultural	3	66
Industrial (including mining)	0	4
Irrigation	25	16
Other purposes	5	0
Total number of *Licences* issued	39	89

Other licensing activities completed	Surface Water	Groundwater
Application (project) assessment completed	51	78
Development/exploration Permit issued	4	23
Authorization for Temporary Water Use issued	9	5
Licences/applications reviewed and file closed	120	40
Total number of other licensing activities completed	184	145

Telephone inquires concerning program activities	Surface Water	Groundwater
Telephone inquiries concerning program activities	1800	1400

Water Use Revenue	
Licence (application) fees	$8,450.00
Industrial water use charges	$116,620.00
Total	$125,070.00

Water Power Regulation and Crown Land Development Review

Recommendations were made on 100 proposals for use and development of 250 parcels of Crown land in Water Power Licence Areas and Water Power Reserve Areas.

Table WM.3
Water Power Revenue

Utility	Land Rentals	Water Power Rentals	Kilowatt-Hours Production
Manitoba Hydro	$703,712.64	$106,771,775.23	31,047,745,000
Winnipeg Hydro	$23,985.98	$1,800,395.46	1,105,894,000
TOTAL	$727,698.62	$108,572,170.69	32,153,639,000

Table WM.4
12.4(b)2 Water Licensing

Expenditures by Sub-appropriation	**Actual 2001/02 $**	**FTE**	**Estimate 2001/02 $**	**Variance Over/(Under)**	**Expl. No.**
Total Salaries and Employee Benefits	877.0	16.00	697.6	179.4	
Other Expenditures	45.2		45.8	(0.6)	

Water Planning and Development

The Section:

- Plans, manages and communicates on water-related developments, activities and strategies,
- Co-ordinates resource planning for watersheds and aquifers,
- Reviews and develops legislation and policy, and
- Reviews and assesses development proposals regarding water impacts.

Co-ordination and co-operation on water management projects, studies, agreements and issues is maintained with other jurisdictions, agencies and Boards. These include International Joint Commission, International Red River Board, International Souris River Board, Red River Basin Board, Red River Water Resources Council, Red River Basin Institute, Pembina River Basin Advisory Board, Prairie Provinces Water Board, Lake of the Woods Control Board, Prairie Farm Rehabilitation Administration, Saskatchewan Water Corporation, Saskatchewan Agriculture and Food, Saskatchewan Environmental Resource Management, Ducks Unlimited Canada, Cree Nation Tribal Health Council, and North Dakota State Water Commission.

Water Planning and Communication

Planning and communication services ensured that developments were sustainable, resource interests were protected, and impacts minimized. Public and clients were informed about issues, programs, activities, developments, and proposals. The Branch's Website was used extensively to provide information to clients.

Investigations were undertaken, reports prepared and presentations made to enhance awareness and to respond to concerns. Stakeholder-supported basin, watershed, and aquifer management planning continued.

A guidelines document, describing procedures for watershed planning and management for sustainable, integrated resource management and development, was drafted.

Upper Assiniboine River Basin Study

A draft response to the *Study* recommendations has been circulated for comment among Manitoba government agencies. Once reviewed and approved by Manitoba and Saskatchewan, a combined response will released to the public.

Pembina River Basin Management Plan

A framework *Plan* was completed. All members of Pembina River Basin Advisory Board, except for Cavalier County, accepted the *Plan*. A three-year, water-quality monitoring project was initiated in four sub-watersheds: Headwaters/Pelican Lake, Badger Creek/Rock Lake, Cypress Creek, and Lower Pembina. This project will establish baseline data to priorize water quality projects and spending.

Little Saskatchewan River Watershed

A stakeholder-based process was initiated to work to develop a water management plan.

Winkler Aquifer Management Plan

Planning assistance was provided to Winkler Aquifer Management Advisory Board to co-ordinate implementation of initiatives by its five action groups. Several funding sources were identified to support promotion of awareness and sustainability.

Oak Lake Aquifer Management Plan

Planning assistance was provided to facilitate initiative implementation by the Board's four action groups. Funding sources were explored to help promote awareness and sustainability.

Swan Lake Basin Management Plan

A stakeholder-based planning process continued to develop a *Plan* for Manitoba and Saskatchewan parts of this basin.

Assiniboine Delta Aquifer- Management Plan

Work continued toward a stakeholder-supported *Plan* to guide development and ensure protection. A Technical Advisory Group (TAG) was established to support *Plan* development. The TAG compiled and presented information and produced 21 technical reports. A Round Table of stakeholders, representing 46 organizations, was established, which began considering technical data and information about the aquifer and surrounding area.

Legislation and Policy

Legislation, policies, programs, strategies and directives were reviewed to ensure sustainable development.

Water Strategy

A discussion paper, *Water: A Proposed Strategic Plan for Manitoba*, was prepared and released. The *Strategy* will lead to comprehensive water legislation and locally-driven water management, based on watershed boundaries. A steering committee, comprising 12 key stakeholders, was established to direct consultation and make recommendations to government on the discussion paper and on implementation. A broad-based advisory committee reviewed the overall strategy and provided recommendations on content and implementation.

The steering committee consulted with stakeholders on *Strategy* contents and implementation. Further consultations were planned.

Water Control Infrastructure

Waterways, crossings, water control structures, dams, dykes, drainage channels and major flood control works are managed and monitored. Inspection and assessment services are provided to maintain safety and function and to identify refurbishment and upgrading requirements. Proposals that could affect this infrastructure's integrity are investigated and authorization permits outlining terms for continued safe and effective control are issued.

Drainage and Litigation

Land drainage licensing includes investigation, compliance, enforcement and resolution of complaints. Contracts for upgrading and rehabilitating agricultural drainage systems were co-ordinated and supervised.

Water Diversion Works Regulation

Technical advice was provided to License applicants to protect public interest and affected people or resources, particularly in respect of works that crossed or affected adjacent properties where capacity of the owner, usually the municipality, was required.

In evaluating drainage project applications, consideration was given to impacts on water resources, wildlife, fisheries, agricultural land base, public and private property, receiving drainage works, and natural waterways and waterbodies. 535 applications for *Drainage Licences* were received, 14 *Ministerial Orders* were prepared and 302 *Drainage Licences* issued.

The ***Annual Report of the Dyking Commissioner*** was prepared.

Data Management

A database of provincially-owned infrastructure detail including maps, plans, field/survey information, and microfiches is maintained. Requests for loans or reproduction were filled and specialized equipment and supplies maintained.

Water Projects

Assiniboine River Dykes Rehabilitation

Refurbishment was completed at sites during fall and winter.

Red River Floodway Rehabilitation

Refurbishment of the inlet control structure's west gate, below the waterline, was completed.

Table WM.5
Development Review of Water Impacts

Water Impact Reviews	1998-99	1999-00	2000-01	2001-02
Proposals for subdivisions, municipal development plans and zoning by-laws	157	515	560	542
Designated Flood Area Permits	400	239	180	150
IDG circulars, including ***Environment Act*** proposals and Sustainable Development Innovation Fund applications	72	52	120	125
Crown land sales, and *Lease* and *Permit* applications	197	268	240	175

Table WM.6
12.4(b)3 Water Planning and Development

Expenditures by Sub-appropriation	**Actual 2001/02**	**Estimate 2001/02**		**Variance Over/(Under)**	**Expl. No.**
	$	**FTE**	**$**		
Total Salaries and Employee Benefits	1,068.4	17.00	1,072.1	(3.7)	
Other Expenditures	114.9		87.9	27.0	

Surface Water Management

Level and streamflow forecasts, and status reports on hydrologic conditions of rivers, lakes and reservoirs, were provided, with emphasis on operation of control works and flood protection. Planning and engineering studies were undertaken for water use, allocation and licensing, public information, and multi-disciplinary resource management. Operation of dams was co-ordinated for water supply, conservation, flood control, fish and wildlife habitat, and recreation. Specialized hydrologic analysis, advice and information were provided.

Hydrologic Forecasting and Reporting

Spring runoff was much above average in most of the south in 2001, largely from very heavy November precipitation. High river levels extended operations of major flood-control works. Water-level and flood-forecast information was prepared and widely distributed daily to government, municipalities, and others, early April to late May. This included the Red, Assiniboine, Souris, Pembina, and Roseau rivers and many streams in Riding Mountain area and Dauphin Lake Watershed. Daily briefing papers were prepared for the Legislative Assembly, government, water managers, emergency management, and others through much of April and May. Flooding along Red River from Letellier to Morris, and near-record flooding on Little Saskatchewan River and near Lake Manitoba, necessitated special forecasting and reporting of hydrologic conditions for those watersheds.

Serious flooding along Lake Manitoba's shoreline, due to high lake levels compounded by strong winds, added to overland flooding of sloughs and swamps. Numerous road closures were required due to washouts and need to pump water across roads and highways. Special surveys on shoreline damage due to wind and wave action were conducted. The unusually high levels required special measures for operation of Portage Diversion and Fairford Dam, to minimize damages.

Special care was taken with operation of major dams on Assiniboine and Souris River systems. Monthly inflow forecasts and operation scenarios were prepared for Lake of the Prairies during spring, autumn and winter for consideration by Shellmouth Operation Liaison Committee in making operation decisions. On Souris River, special liaison and conference calls were undertaken for operation of major reservoirs in Saskatchewan and North Dakota, to minimize duration of flooding in Manitoba.

Weekly river condition reports for selected streams were prepared throughout the year, showing plots of latest river flows and their relation to historical flows and flows for the previous year. These were widely distributed to government, municipalities, and many other interested parties via Internet.

Lake reports were issued monthly, May to November, providing information on levels and outflows, and forecast levels. These reports were widely distributed by e-mail and fax.

Hydrologic Condition reports were issued, July to November, describing water conditions throughout the province and indicating possible water shortages.

Volume inflow forecasts were prepared periodically for Lake Manitoba, Dauphin Lake, Shellmouth Reservoir and Pelican Lake. Volume forecasts were also prepared for Red River at Lockport for Manitoba Hydro's regulation of Lake Winnipeg.

Hundreds of requests for information on hydrologic conditions and forecasts, received via telephone and Internet, were responded to. There were numerous calls from consultants wanting a wide variety of information, from historical flood information to specialized river forecasts for bridge construction, hydrometeorological data, and advice on methodologies for solving water-related problems. Many requests for information and advice from federal and provincial agencies engaged in studies were dealt with.

The Hydrologic Forecast Centre liased with other forecast agencies in Saskatchewan and United States. The Centre hosted a workshop with U.S. National Weather Service to exchange information on river forecasting methodologies.

Hydrologic and Hydrometeorological Analysis

Updating of runoff and river forecasting procedures continued. Recent flood-year data re-defined relationships between parameters such as runoff volume, soil moisture and snowcover. 25 river basins were updated. Unit hydrographs were also updated for these rivers. A flood-routing procedure for Roseau River was developed.

Monthly and storm-precipitation maps were prepared for understanding and forecasting watershed behaviour, for assessing damages from excess water, and use by Manitoba Hydro.

Planning continued on improving hydrometric and climatological networks for water management and forecasting. These improvements are being implemented by Water Survey of Canada and the Agricultural Centre of Excellence and were essentially complete at year-end. Future efforts will focus on efficient methods of data transfer and display.

A plan was formulated to instrument Sturgeon Creek watershed northwest of Winnipeg, to build a database for study of continuous hydrologic models using new data sources such as airborne and satellite snow cover estimates, and modelled soil moisture. Some hydrometric instrumentation was installed and a new airborne gamma flight line was established.

Efforts were made to address impacts of climate change on water management, through participation in federal-provincial workshops and activities of the Interdepartmental Committee on Climate Change in Manitoba, holding poster sessions at rural water management workshops, and the like. A study on climate change effects on magnitude and frequency of Red River floods was planned.

Hydrologic services provided included design flows for highway crossings, waterway designs, water supply analyses for Water Rights Licenses, and requests for historic water level and streamflow information, and studies. Development of procedures to evaluate fish passage capability of watercourse openings continued.

Hydrologic support was provided to Assiniboine River Instream Flow Working Group. Historic flows for 1969-2000 were adjusted to unregulated conditions by removing effects of Shellmouth Dam, La Salle River Diversion, and Portage Diversion. Present regulation and full-allocation flows were simulated for 1913-2000 to assess impacts of fish habitat change under regulation. The frequency and duration that bankfull and oxbow-inlet elevations were exceeded was estimated for locations along the river.

Impacts were assessed of the proposed Simplot plant at Portage la Prairie on Assiniboine River flow regime and Shellmouth Reservoir water levels, adopting a worst-case of 20,000 acres of potato production drawing all irrigation water from the river. Results were presented at Clean Environment Commission hearings on this development.

A Water Balance Allocation Model was developed for Water Rights Licensing Section. Flow duration curves for reaches of Deadhorse Creek, Hespeler Channel, and Rosenheim Coulee were prepared. Procedures are being developed to assess, on small perennial streams, water availability after accounting for fish requirements. This will be applied to Whitemud River Watershed.

Water Planning and Communications Section was assisted with the Technical Advisory Groups which support Sustainable Development Round Tables. Reports were prepared and presentations made on baseline hydrology information to Swan Lake Water and Assiniboine Delta Aquifer Management Groups. Similar information was presented to Three Creeks Watershed (Graham, Jackson and Stony Creeks) Management Board, co-ordinated by Western Region.

Surface Water Data Collection

The Branch relies on water level and streamflow data collected under the *Canada-Manitoba Hydrometric Agreement* for operating water control works, flood forecasting, water management investigations, and hydrologic studies. 134 discharge and 62 water-level gauging stations were operated by Environment Canada under the *Agreement*. Real-time hourly data was retrieved at 173 sites in Manitoba and adjacent provinces and states.

To supplement the federal-provincial network, levels were monitored at 110 gauging sites. At two sites, daily streamflow data was obtained. The number of federally and provincially operated hydrometric stations since 1994-95 is shown below.

Table WM.7
Hydrometric Station Operation

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
Federal-Provincial stations	281	227	227	174	179	179	188	196
Provincial Stations	116	123	123	135	129	126	117	110

Data for 72 provincial stations was forwarded to Environment Canada's database. Provincial and federal data were added to the provincial database.

Water Supply Management, Structure Operation and Allocation Planning

Reservoir levels and spring inflows were monitored to assess flooding and potential supply problems. Inspections were conducted at dams and reservoirs to evaluate performance and concerns were investigated. Stakeholder-supported operating plans, and plans for supply for municipal and industrial uses were carried out. Surface water supplies were sustainably managed through regional or provincial plans, strategies, and policies. Municipal use data was obtained and usage at about 100 communities was updated.

Reservoir Regulation

All major reservoirs filled to target levels by late May.

- Shellmouth Reservoir (Lake of the Prairies) peaked at 428.20m at end of July and receded to summer target by mid-October.
- Lake Manitoba peaked at 247.89m in mid-May, 0.34m above target level, and remained above target level until late August.
- Dauphin Lake peaked in mid-May at 261.36m, 0.82m above summer target level.
- Brereton Lake peaked at 316.14m in early May, 0.12m above target.
- Falcon Lake peaked at 325.06m in early June, 0.39m above summer target level.
- West Hawk Lake peaked at 332.92m in early June, 0.38m above summer target level.

Flood Damage Reduction

Red River Floodway was operated 7 April-21 May, with peak discharge of 22,000 cfs. The first meeting of Red River Floodway Operation Advisory Board reviewed operation issues. Portage Diversion was operated 21 March-23 May, with peak discharge of about 18,000 cfs. Portage Diversion Liaison Committee discussed operation of the Diversion.

The MIKE-11 hydrodynamic model of Red River valley was used in projects to estimate flows and water levels. The largest project was in conjunction with an engineering consultant's study of improved flood protection for Winnipeg; MIKE-11 modelling work estimated levels for various flood volumes, with expanded Floodway or with detention structure near Ste. Agathe. Another project assessed relocating the Floodway outlet further north, to determine if this would be hydraulically beneficial. Improvements and refinements to the model began.

Hydraulic analysis assessed impact of relocating part of the Designated Floodway Line along Red River in Winnipeg. The City is exploring moving some Primary Dykes to better protect some residences.

Table WM.8
12.4(b)4 Surface Water Management

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	731.6	14.00	821.6	(89.6)	
Other Expenditures	241.0		293.6	(52.6)	
- *Canada-Manitoba Agreement for Water Quality Surveys*	548.4		587.0	(38.6)	
Total Other Expenditures	789.4		880.6	(91.2)	

Groundwater Management

The Section's activities enhance ability to monitor and manage groundwater resources sustainably. Major activities include:

- Administration of ***The Ground Water and Water Well Act***,
- Collection and storage of information on occurrence of aquifers, quality of groundwater, and their sustainable yields, and
- Compilation of this information in the form of maps, reports, and raw data.

The Section also focussed on extensive studies of rural groundwater quality, and impacts of agricultural activities on groundwater quality.

Aquifer Administration

A major activity was planning and evaluation of operational and potential programs to improve aquifer management. Liaison with licensed water-well contractors, an essential activity, was maintained as required and at bi-annual meetings of Manitoba Water Well Association.

Issues of groundwater management at inter-provincial boundaries were addressed in participation on Prairie Provinces Water Board's Committee on Groundwater. The Committee assembled a discussion paper on arsenic in groundwater. The unit worked co-operatively with Geological Survey of Canada and Prairie Farm Rehabilitation Administration regarding prairie-wide water-well database development, potential climate change impacts on groundwater, and development of risk mapping under the federal *Hog Environmental Management Strategy*.

Consultation on groundwater quantity and quality issues was provided to other Branches and Manitoba Transportation and Government Services, and Manitoba Intergovernmental Affairs. Assistance was also provided to Winnipeg, Selkirk, Brandon, rural municipalities, and Conservation Districts. Technical advice was provided to Water Quality Protection Planning Group for *Oak Lake Aquifer Management Plan*. Risks to Oak Lake Aquifer were outlined and provided for the draft *Plan*.

Aquifer Data

Groundwater levels were monitored by 650 observation wells in major aquifers. Levels were monitored continuously in 480 wells with automatic recorders, while manual readings were collected from the rest. Quality was determined by analyzing about 500 samples. Temperature was monitored in 25 recording and 100 manual observation wells to determine change in background quality or consequences of geothermal energy activities.

A network of 35 rain-gauges and 38 soil-moisture monitoring stations was maintained to provide additional information for development of water budgets for several aquifers. Groundwater monitoring data was stored in a computerized database and provided on request to internal and external users. Based on water levels recorded in observation wells, a summary of water levels in major aquifers was prepared quarterly for the *Water Supply Conditions and Outlook Report*.

About 1,625 drilling reports were received from licensed water-well contractors. Well reports were entered into GWDrill, a digital database containing records for about 93,000 drill logs. Output from this database was supplied to drilling contractors, government, and consulting engineers.

Responses were given for about 1,000 telephone and/or written enquires, including information on specific wells, general groundwater conditions, groundwater levels or chemistry. Groundwater availability appraisals for specific locations were also prepared in response to about 30 requests.

Aquifer Definition

Activities again focused on evaluating impacts on groundwater quality from agriculture, particularly livestock operations. This comprised applied research into seepage beneath confined livestock areas and earthen manure storages, groundwater and subsoil monitoring on study sites where manure is applied as fertilizer, and reviewing and commenting on livestock production proposals. These activities are reported in more detail under *Value Added Livestock Initiative*, below.

Other Activities

Co-operation continued with Manitoba Industry, Trade and Mines, Geological Survey of Canada, and University of Manitoba, on studies of paleozoic bedrock aquifers in south and central Manitoba. Geological and hydrogeological frameworks for much of southeast and south-central were provided to a Ph.D. student conducting a modelling study of fluid and contaminant transport in these aquifers.

The second year of a co-operative study with the Department of Civil and Geological Engineering, University of Manitoba, to study seepage beneath earthen manure storages, was completed. Cores were collected beneath five earthen storages and analysed for nutrients and salts. Results to date indicate leakage rates beneath properly constructed earthen storages are quite low and within standards set in current regulations. However, a number of older pre-Permit storages were found to leak at rates that exceed these standards.

Studies continued at four sites to examine groundwater quality impacts from land application of hog manure as fertilizer. After 3-6 years of application on sandy soils, there are indications of slightly elevated nitrates in underlying shallow groundwaters but it remains uncertain if this can be attributed directly to manure application. No microbial impacts have been observed.

Frequent assistance was provided to the public and other Departments, mostly with evaluation groundwater quality impacts from proposed landfill sites, earthen manure storages, and municipal lagoons. Assistance with well or water quality problems was also provided. Assistance was provided to other Branches with instances of groundwater or soils contamination. Reviews and comment were provided on about 10 *Proposals* under *The Environment Act*.

Co-operation continued with Manitoba Agriculture and Food, and Agri-Food Canada, on the federal *Hog Environmental Management Strategy* and methods for aquifer sensitivity mapping. A document was drafted, presenting methodology for evaluating sensitivity of sites for large-scale hog operations. The methodology was applied to one test area.

Participation continued on an inter-provincial group co-ordinating guidelines for large-scale livestock production operations in prairie region. A draft site-assessment document and a final report on a modelling study on contaminant transport beneath earthen manure storages were prepared.

Talks and presentations were given to staff and the public on potential groundwater impacts from hog and cattle operations and results of studies.

Saline Water Wells

Monitoring continued near saline wells in Ile des Chênes district, of which the Branch had sealed the lower parts. Quality in nearby wells continued very slow improvement.

Aquifer Capacity

Groundwater studies expanded near Cartwright on part of Spiritwood Aquifer that extends from North Dakota into southern Manitoba, to determine if the aquifer had capacity for commercial development. Ten test holes and five observation wells were installed. The indications are that the aquifer can supply about 1,000 acre-feet of water annually for commercial purposes.

Test work near Moosehorn, Lundar, Woodlands, Warren, and Stonewall enhanced understanding of groundwater. 10 observation wells were established. Four of these, at different depths near Stonewall, were to determine if the zone in which town and district wells are sited is secure and can continue supplying drinking water. It was determined that the zone being pumped is the last uncontaminated zone in the bedrock aquifer in this area. Therefore, stringent management of noxious materials and groundwater fluids is needed to ensure that the supply remains competent.

Eight diamond-drilling applications were reviewed for Manitoba Industry, Trade and Mines. Manitoba Transportation and Government Services was assisted to solve major groundwater-related roadbed problems at three sites.

A major aspect of this program is management of the limestone aquifer underneath Winnipeg, eastern Red River Basin, and Interlake areas. This aquifer provides about 20% of the water used in Winnipeg, and all water for Selkirk, Steinbach, and numerous other urban and rural areas. Hydrogeological evaluation of irrigation water supply and groundwater impacts continued for Assiniboine Delta Aquifer. Adequacy of water supply from Brandon Aquifer for the Simplot Processing Plant was monitored. Water supply aspects of Winkler and Oak Lake Aquifers were reviewed. Over 250 requests for advice or information were responded to. Four presentations were made on aquifer capacity.

Value Added Livestock Initiative

Livestock Technical Reviews

Staff continue to serve on all four Technical Review Committees. Hydrogeological aspects of proposals for new or expanding livestock operations were reviewed and technical expertise was provided. Over 80 reviews were completed.

Agricultural Effects on Groundwater

Soil and groundwater investigations and monitoring continued at study sites to evaluate potential impacts from long-term application of animal manure as a fertilizer. In addition to site characterization and on-going monitoring, a rigorous program of sampling for environmental isotopes was undertaken to determine sources and fate of nitrate. Results are preliminary and long-term studies are necessary to evaluate what to change in farming practices.

Manitoba Rural Groundwater Quality Initiative

Private Well Sampling Program

A draft summary report on the regional private well sampling program was prepared and is undergoing interdepartmental review.

Sentinel Observation Wells

27 new water-quality observation wells were installed in Eastern, Interlake, and Red River Regions. About 70 sentinel wells were installed over the last three years. Target areas include agricultural regions where substantial nitrate contamination was detected during private well sampling, areas under *Boil Water Advisories*, groundwater pollution hazard areas, and areas where additional baseline water quality information is needed.

Water quality sampling helps determine current conditions and monitors long-term quality in aquifers.

Co-operation with Other Government Departments and the Public

Support is provided to the Office of Drinking Water on water quality issues, mainly on communities with bacterial quality problems. Investigations and follow-up are underway for Crystal City, East Selkirk, Ninette, Grand Rapids, and Birds Hill. Review of nitrate information and quality sampling was also conducted in Balmoral area to assess degree and variability of nitrate in the carbonate rock aquifer.

Well-site assessments were completed on 73 handpump wells in 10 Provincial Parks. A summary of findings and recommended remedial works was provided to Parks and Natural Areas Branch.

Technical information is provided to Assiniboine Delta Aquifer Round Table for an *Aquifer Management Plan*.

Technical advice is provided to the *Oak Lake Aquifer Management Plan* through the Water Quality Protection Planning Group and the Monitoring Committee Action Group. Assistance was provided in developing a *Risk Based Livestock Protocol*, and on mass mortality burial sites through CFIA Mass Mortalities Burial Sites Project. Information on groundwater protection and expertise was provided to other departments.

Information is provided to the public and questions answered on a continuing basis, especially in regard to potential effects on groundwater from livestock operations. Presentations on groundwater quality issues and concerns were made to the general public, professional groups, and Conservation Districts.

Groundwater Protection – Well Sealing Program in Red River Region

19 abandoned wells, on property bought by the Province under the Economic Anomalies and Community Dyking Buyouts Program, were sealed to protect groundwater in Red River Valley Flood Protection Area.

Environment Act Reviews

Over three dozen proposals under ***The Environment Act*** were reviewed and advice provided on groundwater protection, including for pesticide storage and handling areas, and industrial operations.

Table WM.9

12.4(b)5 Groundwater Management

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	825.2	16.00	908.3	(83.1)	
Other Expenditures	615.8		417.2	198.6	

Water Quality Management

To assist protecting and rehabilitating aquatic ecosystems through application of principles of sustainable development and innovative management of risks, the Section:

- Operates an ambient monitoring network on major streams, lakes and recreational beaches, assisted by volunteers, organizations such as Conservation Districts, and Region staff.
- Conducts issue-based, site-specific studies, usually by intensive short-term sampling, to assess point and non-point source impacts from agriculture, mining, forestry, municipal discharges, and others.
- Co-operates with industry, government, and others to protect water quality from impacts arising from agricultural diversification.
- Supports and participates in scientific studies to better understand impacts of human disturbance on ecosystem structure and function.
- Develops and recommends water quality standards, objectives, and guidelines to protect water quality and ecosystem integrity.
- Provides technical and scientific support to the Department, government, Clean Environment Commission, and others.
- Co-operates with neighbouring jurisdictions to protect water quality from upstream developments.
- Addresses non-point source pollution partnered with volunteers, municipalities, and others.
- Educates volunteers and citizen groups to foster awareness and empower local stewardship. Activities include presentations and non-technical articles for newsletters.
- Reviews *Proposals* under ***The Environment Act*** and ***The Dangerous Goods Handling and Transportation Act***, and other technical documents or proposals.
- Leads aquatic ecosystem protection, including participating in local, provincial, regional, national, and international committees to address issues and to develop co-ordinated actions.
- Administers the *Canada-Manitoba Water Quality Monitoring Agreement.*
- Develops and implements co-operative, proactive strategies to prevent invasion by zebra mussels and other foreign aquatic species.
- Contributes to sustainability reporting, including operation of ambient monitoring sites in several ecozones, database maintenance, and incorporation of community- and ecosystem-level monitoring and reporting tools to provide information on sustainability indicators including *Canadian Water Quality Index*.
- Manages acquisition of on-going, high-quality laboratory analytical services for the department.
- Manages water quality data in a secure, user-friendly system that meets complex, on-going needs of the Section, Department, clients, and partners.

Priority Activities

- Began work on the Assiniboine River Study. Information generated from this study will assist to ensure that existing and future development along Assiniboine River occurs in a sustainable manner. This work is being co-ordinated with studies being conducted by Cities of Brandon and Portage la Prairie.
- Developed and sustained partnerships with cottage-owner associations, lake and stream stewardship groups, Conservation Districts, municipalities, and other local authorities, to collect

water quality information and develop co-operative, basin-wide approaches to maintaining and rehabilitating water quality. New partnerships were developed and most existing relationships were maintained.

- Ambient water quality monitoring activities continued at over 50 sites. Up to 100 water-quality variables were measured at most sites year-round, while bottom invertebrate community was assessed at 22 sites. Both water chemistry and structure of the invertebrate community assist in determining ecosystem health. Data are requested by external stakeholders, and are used by the Department, for example, to determine assimilative capacity for discharge licensing under ***The Environment Act***.
- Water quality was monitored at 50 beaches and information was posted on the Department's Internet Webpage. Shoal Lake, source of Winnipeg's drinking water, was also monitored.
- Significant work continued on Manitoba's *Nutrient Management Strategy*. Artificial enrichment of streams and lakes with plant nutrients such as phosphorus and nitrogen is a major water quality issue. Virtually all man's activities, including municipal and industrial discharges, agricultural activities, forestry, and discharges from cottages, play a role. The *Nutrient Management Strategy* will lead to more appropriate water quality objectives for prairie streams and receiving lakes such as Lake Winnipeg, and developing an implementation plan if reductions are required.
- Pursuant to the *Nutrient Management Strategy*, considerable water quality work on Lake Winnipeg sought to better understand its condition, and develop a water quality model to assist better managing nutrient inputs.
- As over 70% of Manitoba's surface water originates in other jurisdictions, the section plays a major role in ensuring that transboundary water quality is protected and of sufficiently good quality to meet our needs. Support is provided to oppose interbasin transfer of water and the threat posed by aquatic nuisance species from proposed Devils Lake outlet and Garrison Diversion Project. The Section participates on such international committees as the International Joint Commission's International Red River Board and the Canada-United States Garrison Joint Technical Committee.
- Continued to lead provincial participation in development of a Watershed Management Plan for Shoal Lake, source of Winnipeg's water supply, with Ontario, Canada, and five First Nations.
- Significant effort was dedicated to programs and co-ordinated efforts to prevent zebra mussel and other nuisance aquatic species from being introduced. The Section continued participation on executive committee of Western Regional Panel on Aquatic Nuisance Species and participated in 100th Meridian Project—a project to prevent zebra mussel from moving past the 100th Meridian, which transects North America east of Brandon. Supervised a number of students employed through STEP and Green Team to inspect boats and other equipment at major border crossings.
- Greater emphasis was placed on groundwater quality, including expert advice on developments potentially affecting groundwater, water quality studies to better understand impacts from agricultural diversification, and assisting contaminated-site management.
- Co-ordinated the department's acquisition of high quality analytical services to support our technical and scientific programs through the administration of contracts with two laboratories.
- Assisted implementation of Alberta's Environmental Management System for the Department. This complex data management system will manage the Section's half-million water-quality data records and provide access for staff through the Intranet.

Table WM.10 **Water Quality Management Activities**	**Number**
Water Quality Monitoring and Studies	
Surface monitoring sites routinely operated for water chemistry	81
Surface monitoring sites routinely operated for indicators of biological health	22
Biomonitoring sites	3
Co-ordination of volunteer-operated monitoring sites	81

Table WM.10 **Water Quality Management Activities**	**Number**
Co-ordination of volunteer-operated sampling of raw water supplies for toxic algae	15
Issue-based, site-specific studies	14
Co-ordination of monitoring at recreational beaches	50
Reports, Presentations, Scientific Reviews, Inquiries, etc.	
Preparation and contributions to technical and non-technical reports	16
Preparation of brochures	2
Presentations	44
Media interviews	42
Requests for data	178
Co-ordination or participation in workshops, public displays, etc.	15
Responses to telephone and e-mail inquiries from public, government agencies, consulting firms, etc.	11,123
Review and provide comments on proposals received under ***The Environment Act*** and ***The Dangerous Goods Transportation and Handling Act***, and other documents submitted for scientific review including proposals for funding through the ***Sustainable Development Innovations Fund.***	236

Table WM.11

12.4(b)6 Water Quality Management

Expenditures by Sub-appropriation	**Actual 2001/02** **$**	**Estimate 2001/02** **FTE**	 **$**	**Variance Over/(Under)**	**Expl. No.**
Total Salaries and Employee Benefits	428.8	7.00	433.4	(4.6)	
Total Other Expenditures	135.8		266.3	(130.5)	

Waterway Maintenance

Region engineering and Branch staff performed waterway maintenance activities under three categories: water allocation, flood-damage reduction, and waterway maintenance, including associated labour costs. Region staff operated dams to control flows as directed by the Branch, including maintaining facilities. Flood-damage reduction activities mitigated flood damages and maintained structures and equipment to ensure future service. Waterway maintenance activities maintained provincial waterways and crossings, primarily for the benefit of the agricultural sector. Region engineering staff also performed drainage licensing activities and enforced ***The Water Rights Act***.

Branch activities supported by waterway maintenance funding comprise a broad range of activities such as spring snow surveys, litigation, special studies for waterway maintenance and other water infrastructure projects including developing provincial standards, and monitoring safety of provincial dams. Issues identified by municipalities are addressed through a contingency fund. Cost of providing engineering data to government agencies, the public and the business sector is also funded under waterway maintenance.

Waterway maintenance funding also supported spring flood-fighting costs. In co-operation with Manitoba Intergovernmental Affairs, some additional critical waterway maintenance activities were performed.

Table WM.12
12.4(b)7 Waterway Maintenance

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	4,902.6		3,960.8	941.8	

Chapter 8

Parks and Natural Areas

The Branch is steward of Provincial Parks and Natural Areas, managing these lands for the long-term benefit of Manitobans and the environment. Provincial Parks preserve unique and representative natural, cultural, and heritage resources, conserve ecosystems, and provide recreational and educational opportunities. The Branch has a prominent role in identification and establishment of other protected and natural areas.

Administration

The Section establishes priorities and guidelines, ensures conformity to Department policies and government goals, and assesses effectiveness of programs and products. It provides administrative support, personnel duties, and reconciles fees from Park users, commercial concessions, and leased properties. Work programs are reviewed to ensure that goals are met, and that expenditures conform to estimates, legislation, and policies.

Grants were conveyed to International Peace Garden, Manitoba Wildlife Foundation (upkeep and public programs at Fort Whyte Centre for Environmental Education), and Federal-Provincial Parks Council (promotion and management of parks).

Table PA.1
12.4(c)1 Administration

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	393.3	5.00	355.4	37.9	
Other Expenditures	408.4		362.0	46.4	
- Grant Assistance	191.2		191.2		
Total Other Expenditures	599.6		553.2	46.4	

Planning and Development

The Section prepares land-use plans, development plans, policies, and regulations to guide establishment, management, and development of the Park system, to:

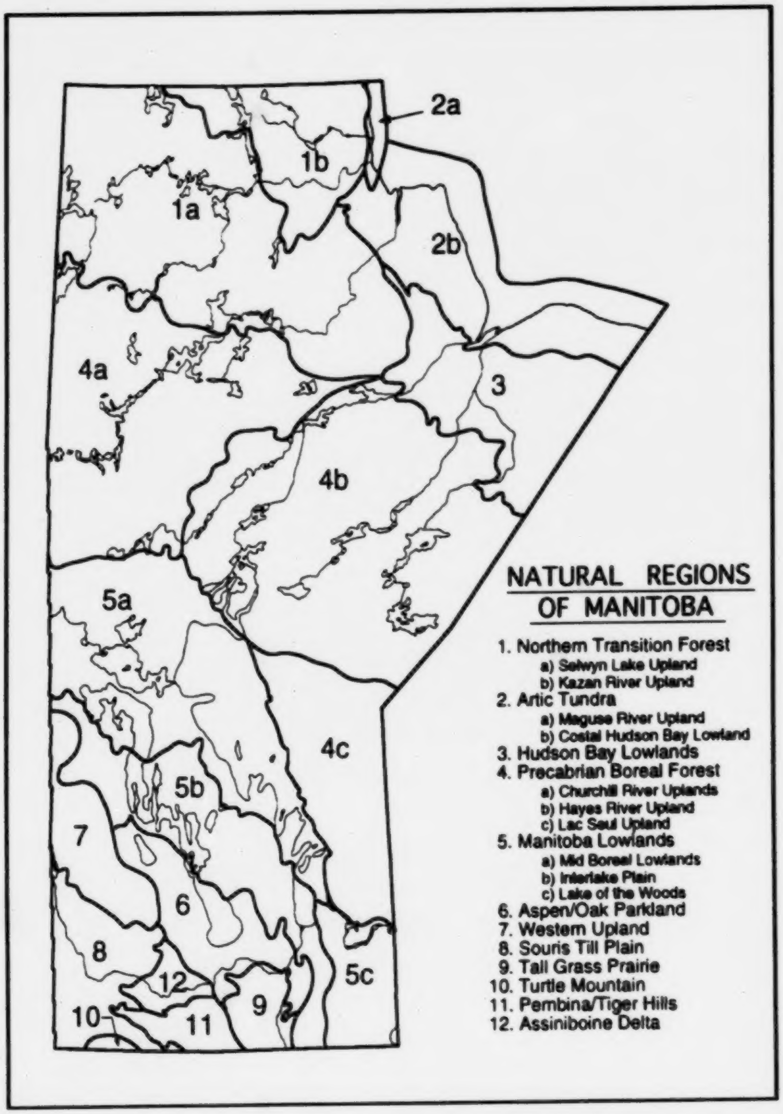
- Conserve ecosystems and maintain biodiversity.
- Preserve unique and representative natural and cultural heritage resources.
- Provide outdoor recreation and education in a natural setting.

The Section guides establishment and management of Ecological Reserves, and leads the Protected Areas Initiative. The Initiative identifies and builds support for protection of lands that are representative of each natural region. Canadian Heritage Rivers program is managed, as is co-ordination of provincial input to national park establishment initiatives.

Protected Areas Initiative

This Program implements Manitoba's commitment to build a network of protected areas, representative of natural regions, guided by the ***Action Plan for Manitoba's Network of Protected Areas***. By excluding timber harvesting, hydro-electric, mining, petroleum development, and other activities that significantly and adversely affect habitat, it is understood that biodiversity will be maintained. Areas of special interest have been identified in Natural Regions 1a, 1b, 2a, 2b, 3, 4a, 4b, 4c, 5a, 5b, and 5c. New areas of special interest will be identified for Natural Regions 6, 7, 8, 9, 10, 11 and 12. A geographic information system is used to identify and evaluate potential areas.

Figure 5.


2a
1b
1a
2b
4a
3
4b
5a
4c
5b
7
6
8
12
5c
9
10
11
NATURAL REGIONS OF MANITOBA
1. Northern Transition Forest
a) Selwyn Lake Upland
b) Kazan River Upland
2. Artic Tundra
a) Maguse River Upland
b) Costal Hudson Bay Lowland
3. Hudson Bay Lowlands
4. Precabrian Boreal Forest
a) Churchill River Uplands
b) Hayes River Upland
c) Lac Seul Upland
5. Manitoba Lowlands
a) Mid Boreal Lowlands
b) Interlake Plain
c) Lake of the Woods
6. Aspen/Oak Parkland
7. Western Upland
8. Souris Till Plain
9. Tall Grass Prairie
10. Turtle Mountain
11. Pembina/Tiger Hills
12. Assiniboine Delta

Protected Areas can include all or parts of Ecological Reserves, Parks, Wildlife Management Areas, and lands held by agencies, organizations, individuals, and Canada.

Pembina Valley Provincial Park became Manitoba's 75th Provincial Park, the first full Provincial Park created under the new ***Provincial Parks Act*** (1996), and the newest protected area. Seven new protected Park Reserves (Goose Islands, Grand Island, Kinwow Bay, Pelican Islands, Pemmican Island, Sturgeon Bay and Walter Cook Uplands Caves) were created and all were extended for five years. In addition, all or parts of eight Wildlife Management Areas were protected. Consultations continue for establishing a National Park in Manitoba Lowlands. Mining and forestry industries, communities, and environmental organizations are consulted in selecting protected areas.

Management Planning

The Provincial Parks Act requires creation of a *Management Plan* for each Park. *Plans* are working tools for managers in making decisions on major issues. Public involvement is integral to *Plan* preparation.

Planning for Atikaki Park and Bloodvein Canadian Heritage River continued. Public drop-ins to review the draft *Plan* were held and a summary of comments was prepared; the *Plan* is being revised and is expected to be finalized in 2002.

The *Management Plan* for Grand Beach Park was finalized and submitted for approval.

The planning process for Duck Mountain Park was initiated with the first round of public drop-in sessions. Preparation began on a summary of comments and the draft Plan.

Legislation and Regulations

Provincial Parks Designation Regulation is the means by which land is designated as Provincial Park. The *Regulation* was amended for the first time to create Pembina Valley Provincial Park.

The *Regulation* also enables Crown land to be designated as a Park Reserve for six months, and renewed for a further five years, while public consultations clarify such issues as boundaries and management, ultimately determining whether designation as Park is warranted. The *Regulation* was amended four times to designate the following Park Reserves, initially for six months, and then for five years:

- Goose Islands,
- Grand Island,
- Kinwow Bay,
- Pelican Islands,
- Pemmican Island,
- Sturgeon Bay Park,
- Walter Cook Uplands Caves.

Permits and Leases Regulation, which enables the Minister to issue *Permits* and *Leases*, was amended to allow cancellation of a *Permit* issued by mistake.

Design and Development

This program provides development direction, capital budget management, site planning, and public facility design and mapping. Staff participated in the Watchable Wildlife Working Group with Wildlife and Tourism Development Branches, and in Interdepartmental Recreational Trails Committee.

Major projects included:

- studying recreation trails at Hecla and Birds Hill Provincial Parks,
- developing a comprehensive trail and trail signing system for Pembina Valley Provincial Park,
- developing parking, trailhead, and picnic sites at Pembina Valley,
- designing a commercial plaza and buildings for Grand Beach,
- design concepts for an equestrian campground and day-use area at Birds Hill Provincial Park,
- West Hawk Lake Fish Hatchery site design, and visitor centre landscaping,
- continued design of the South Whiteshell Trail,
- design of a visitor kiosk at West Hawk Lake, and
- development of an accessible fishing opportunity at Birds Hill Lake (with the Manitoba Fly Fishers Association). Asessippi Provincial Park miniature golf course, proposed Prairie Golf Course, and Concession Area Redevelopment were designed.

- Pioneer Bay Campground Redevelopment was designed for Clearwater Lake Provincial Park.
- Detailed designs for the Falcon Lake Waterfront were prepared using private consultants.

Summer and Winter Park maps were revised, printed and distributed. A number of campgrounds were field-checked for map accuracy.

Ecological Reserves

Ecological Reserves are established under ***The Ecological Reserves Act*** to protect areas with unique and representative plants, animals, geologic features, natural landscapes, and ecological processes.

The Ecological Reserves Advisory Committee, appointed under the ***Act***, met five times to priorize candidate sites and review nominations; one site was recommended to the Minister for designation

Two new Park Reserves (Pelican Islands and Walter Cook Uplands Caves) had been recommended as Ecological Reserves by the Committee. Consultations on these Park Reserves will consider feasibility of this designation.

A brochure about the Ecological Reserves Program was printed and a Website developed.

Canadian Heritage Rivers System

This program manages rivers that satisfy the System's criteria, applying national recognition to conserve and interpret outstanding heritage. The Seal and Bloodvein Rivers are designated Heritage Rivers, while the Hayes is a candidate.

Management planning for Hayes River was initiated by hiring a consultant, formation of a planning team, and the first round of public drop-in sessions. This process is expected to continue for two years and, when completed, will allow full status as a Canadian Heritage River.

National Parks Initiatives

Consultation on establishment of a National Park in Manitoba Lowlands continued with First Nations communities and stakeholders. Key communities of Grand Rapids and Norway House confirmed their desire to enter into pre-negotiations with Manitoba and Canada on a *Park Establishment Agreement*.

Discussions continue with Parks Canada, Forestry Branch, and Manitoba Hydro on possible boundary reconfigurations for Long Point component. Configurations are being developed to achieve greater ecological integrity while accommodating forestry and hydro-electric transmission requirements.

Interpretation

The Program offers visitors a deeper understanding and appreciation of natural and cultural resources in Parks while assisting public understanding of goals and programs of the Department. Live field programs, complemented by publications, outdoor exhibits, and audio-visual materials, bring visitors in direct contact with Park resources and management.

Delivery of the field program includes a full-time interpreter at Birds Hill, and 21 seasonal (May-September) interpreters at Spruce Woods, Hecla/Grindstone, Birds Hill, Grand Beach, Whiteshell, St. Norbert, St. Malo (new this year), Lockport, Paint Lake, and Turtle Mountain Provincial Parks. In addition, 18 Green Team members provided assistance at these Parks. Interpreters contacted 81,070 visitors at field programs and in interpretative centres and museums.

New design guidelines were incorporated for new and reprinted publications. An interpretative map and entrance sign were developed for Pembina Valley Provincial Park. Revisions and reprints included interpretative maps for Hecla/Grindstone, Paint Lake, Duck Mountain, Asessippi, Turtle Mountain, Nopiming and Atikaki. Paint Lake, Nopiming, Duck Mountain, Turtle Mountain and Hecla/Grindstone map bases were digitized; trail guides were produced for Spirit Sand, Hecla Village, Grassy Narrows; as were event posters for Paint Lake, Hecla/Grindstone, Grand Beach, Lockport and Turtle Mountain. A new interpretative publication for use at lodges in Atikaki Park was produced, also available online at Parks and Natural Areas Website.

Interpretative exhibits were developed for self-guiding trails at St. Ambroise Beach (bilingual), Asessippi Village and Winnipeg Beach Provincial Parks.

Table PA.2
Number of Visitors Contacted by Interpretation

1992 to 2002 10-year Average	1997 to 2002 5-year Average	2001-02
80,743	89,165	81,070

Table PA.3
12.4(c)2 Planning and Development

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	819.5	17.00	862.3	(42.8)	
Total Other Expenditures	187.9		194.6	(6.7)	

Park Districts

Park Districts administers Vacation Home Lot Program, commercial operations, land use activities, water quality, and sewage and solid waste disposal. An accounting system tracks costs of road maintenance, garbage handling, and water, sewer and other services to lessees, permittees and private landowners. Budgets were developed to determine service fee levels.

Vacation Home Program

The Program administers about 6,000 vacation homes on leased, permitted and private lands in Parks. 347 assignments and 128 collateral security recordings were processed, 235 *Leases* were renewed and new *Leases* issued, and 290 *Permits* issued for cottage construction or structural modification. This program generated $4.7 million in revenue. 197 leasehold inspections were conducted.

Commercial Operations

The Unit manages relations with private-sector operators to ensure high-quality services for visitors. 157 commercial operations provide such services as restaurants, stores, accommodation, golf courses, marinas, and beach concessions. Also, 44 special-consideration organizations conduct educational and religious programs.

Land Use Activities

Permits were issued for commercial fishing, wild rice cultivation, trapline cabin construction, hay and grazing, scientific research, and mineral claim staking and exploration.

Water Quality Control and Sewage and Solid Waste Disposal Program

In the five-year program, 149 cottage lots, most of which were not road accessible, were inspected at Falcon and West Hawk Lakes, of which 8 were found to be in violation of ***The Environment Act***. Private sewage disposal systems in subdivisions continued to be the major focus. Installation approval was granted for 54 holding tanks, 17 septic tanks and fields, 3 septic tank replacements, 3 septic field replacements, and 24 sullage pits.

Table PA.4

12.4(c)3 Park Districts

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	467.6	9.00	372.3	95.3	
Total Other Expenditures	49.3		49.3	0	

Park Operations and Maintenance

Regional Operations Division operates and maintains Parks to provide high-quality, safe and enjoyable outdoor recreational and educational opportunities, while ensuring compliance with provincial laws.

Table PA.5

12.4(c)4 Park Operations and Maintenance

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	10,446.1	225.80	10,635.6	(189.5)	
Total Other Expenditures	4,233.4		4,453.6	(220.2)	

Support Services

The Section guides and supports Regional Operations in ensuring high-quality outdoor recreational experiences. This includes analysis of operating strategies and procedures, policy review, market research, marketing strategy development, promotion, and statistical compilation and trend evaluation. The program designs, implements, and evaluates new initiatives in campground, day-use, and backcountry management, as well as customer-service training and volunteer activities.

Marketing

Initiatives included developing and implementing a comprehensive communication strategy with Manitoba Culture, Heritage and Tourism, producing a new brochure and advertising for the Volunteer Campground Host program, developing and implementing a promotional/awareness campaign for new Canadians, reprinting ***Manitoba Magic: Provincial Parks Guide***, *Parks Reservation Service*, *Family Vacation Cabins*, and *Fall Camping* brochures, and a full-page advertisement in ***Woodall's North American Campground Directories***. Newspaper advertisements, news releases, and handouts promoted Park programs and initiatives, including opening and closing dates, May long-weekend liquor-free camping, Reservation Service, Family Vacation Cabins, and fall camping.

Staff participated in federal and provincial tourism committees and workshops to improve positioning in tourism strategies and promotional campaigns. The section participated in the Mid-Canada Boat and RV Shows to increase awareness of Parks and Park programs.

Outdoor Recreation Programs

About 5.3 million people visited Manitoba's Provincial Parks. 5,815 camping sites were available including about 4,291 transient sites, of which 2,653 (61.8%) were available for reservation, and 1,524 seasonal sites. 178,276 transient camping nights and 44,280 seasonal camping nights were recorded.

Parks Reservation Service made 32,739 reservations (about 4,000 or 13.8% more than last year) in 39 campgrounds, 25 group-use areas and two Cabin locations.

New initiatives included:

- Developing a comprehensive strategy for disabled accessible campsite development in consultation with the Canadian Paraplegic Association and the Field and Stream Association for Manitobans With Disabilities.
- Developing and implementing a revised Volunteer Campground Host program.
- Re-tendering call-centre services for Parks Reservation Service.

Table PA.6

12.4(c)5 Support Services

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	290.7	6.00	287.0	3.7	
Total Other Expenditures	283.8		294.0	(10.2)	

Chapter 9

Climate Change

The Branch, established in January 2001, is responsible for federal-provincial co-ordination of climate change initiatives and work related to the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The Branch fosters sustainable use of air resources. We work to reduce greenhouse gas emissions while seeking a better understanding of climate change risks, to better inform decisions on major mitigative tools and adaptation strategies. The Branch works co-operatively with the new Energy Development Initiative on all climate and energy related efforts. Climate Change Action Fund, a component of the Sustainable Development Innovations Fund, is administered and provides grants to support practical, Manitoba-based actions that respond to climate change and reduction of greenhouse gas emissions.

Branch activities:

- Established a public education and outreach stakeholder organization, Climate Change Connection, in partnership with Manitoba Hydro and Canada, hosted at Manitoba Eco-Network, to promote climate change education and outreach.
- Chaired the Interdepartmental Committee on Climate Change.
- Represented Manitoba in Canada's national climate change committee of governments that composed Canada's First National Business Plan and National Implementation Strategy.
- Advocated on behalf of Manitoba in ongoing national deliberations on climate change and potential ratification of the Kyoto Protocol.
- Negotiated a federal-provincial agreement to support research into climate change impacts and adaptation.
- Conducted stakeholder meetings to promote, raise awareness, and solicit proposals for funding climate change research.
- Participated in United Nations meetings on clean energy export credits under Kyoto Protocol in Canada's delegation.
- Co-chaired national group for Protocol-related economic analysis (through services of Manitoba Bureau of Statistics).
- Hosted national Environment and Energy Joint Ministers Meeting (JMM) on climate change.
- Member of the Manitoba Hydrogen Steering Committee in the Energy Development Initiative.
- Provided Sustainable Development Innovations Fund with technical review of applications, and administration of funding and technical support.

Air Quality

To measure air quality and provide scientific and technical support for enhancement and protection, the Section:

- Develops and reviews objectives and guidelines for air pollutants of concern,
- Monitors ambient air quality in urban areas and near selected industrial sources to measure adherence to objectives and guidelines,
- Undertakes special project investigations,
- Provides scientific and technical support to the Department, other agencies and the public,
- Prepares reports and evaluates peer reports,
- Assists review and assessment of developments and provides comments for environmental licensing,
- Participates in development and implementation of national strategies, and
- Assists delivery of other departmental programs.

Table CC.1
Air Quality Activities

Activity	Number
National Air Pollution Surveillance (NAPS) – number of urban stations operated	2
Monitoring industries with air emissions – number of stations operated	2[1]
Participation in regional/national air issues and strategies	8
Support to major Department priorities	2
The Environment Act and The Dangerous Goods Handling and Transportation Act *Proposals/Licences*: reviewed comment provided	 35 / 10 16 / 4
Participation in standard development/implementation (Canada-wide Standards)	4
Presentations	3
Requests for information (data, criteria, technical information, etc.)	15

[1] 1 site operated with Regional Operations.

- Air quality monitoring in southwest: completed air quality monitoring at four communities near petroleum handling facilities, published a report.
- Flin Flon Air Quality: extensive monitoring for sulphur dioxide, particulate matter (TSP and PM_{10}), and selected heavy metals continued as part of community monitoring network, with regular reporting. Monitoring equipment moved to better quarters and expanded to measure fine particulate ($PM_{2.5}$).
- Other air monitoring activities: new equipment for measuring fine particulate matter ($PM_{2.5}$) installed in Brandon; implemented continuing equipment upgrades at NAPS sites. Monitoring practices and instrument performance were audited at companies providing services to regulatory requirements.
- Canada-Wide Standards: participation continued to develop and implement national standards for particulate matter, ozone, dioxins/furans and mercury.
- Supported Department's Emergency Response Team by assisting response function.
- Supported implementation of Department's new environmental management system by training users.

Energy Programs and Policy

Activities included:

- Administration of ***The Energy Act***.
- Represented Manitoba at the Energy Sector Table, negotiating the *Energy Chapter* to the *National Agreement on Internal Trade.*
- Analyzed impacts and opportunities of U.S. Plan for a North American approach to energy issues. Monitored and provided briefings on Canadian, U.S., and European activities in restructuring and deregulation of electricity industry.
- Developed Terms of Reference and provided project management with Manitoba Industry, Trade and Mines for a study of Canadian electrical transmission capabilities and future options on behalf of all provinces, Territories and Canada.
- Provided provincial co-chair to work with provinces, Territories, and Canada on draft text, for Canadian Energy Ministers, on principles for provincial participation in discussing international energy issues.
- Operated *Energy Answers Information Centre, to* respond to inquiries from the public, industry, utilities, and other Departments. Technical staff provided impartial, expert advice and distributed publications on matters ranging from energy efficiency to alternative and renewable energy. Technical experts responded to about 500 inquiries. Non-technical staff answered client requests by supplying a wide range of publications encouraging efficient use, and increased use of economic alternate technologies and resources such as natural gas, electricity, photovoltaic systems, wind energy, and solar heating systems, and the Home Retrofit Booklets series (also in French), which provides detailed and objective retrofit techniques for the public.

- Administered the R-2000 program for Natural Resources Canada, Manitoba Conservation, Manitoba Hydro, Centra Gas, and Construction Association of Rural Manitoba. The Manitoba R-2000 Home Program encourages construction of new homes to high standards of energy efficiency, water conservation, and environmental sensitivity. Since 1994, R-2000 offered training to industry on energy-efficient, environmentally responsible design and construction of new housing. Efforts included a two-day Builder Workshop in Winnipeg (26 attended) and one-day Builder Technical Updates in Brandon, Winnipeg and The Pas (34 attended). Participants indicated a high level of satisfaction with content and quality of instructors. Marketing activities included: two open houses in Winnipeg (over 8,000 attended), a print advertising campaign in newspapers, references or feature articles about R-2000 in local and regional newspapers and magazines, and co-op magazine and newspaper ads with R-2000 Builders. Doubling of federal funding for program was negotiated. Responsibility for delivery of this program was transferred to Manitoba Hydro.
- Engaged youth by inviting schoolchildren to produce artwork on energy and environmental themes for the national *Energy and Environment Calendar* contest. The winning artwork appeared on the Calendar produced by Canada, provinces and territories. The winning Manitoba entry for 2001 was by Angel Ladiana, age 12, of Holy Ghost School, Winnipeg. The Department distributed over 8,000 *Calendars* distributed to schools, libraries, daycare centres, and elsewhere.
- Provided input for *Plan Winnipeg* Review on such topics as energy-efficient transportation opportunities, building and housing options, alternative energy, efficiency in infrastructure planning, recognition of climate change, and final draft of *A Long-Range Policy Plan for City Council.*
- Canadian First Ministers tasked Ministers of Energy and Environment to develop and implement a climate change policy. Staff provided input on energy-related interests through participation in Greenhouse Gas Emissions Reduction pilot project and Manitoba Intergovernmental Committee on Climate Change. With creation of Climate Change Branch, staff expanded activities in this area, including secretariat to Environmental Quality/Economic Development Committee of Manitoba Round Table for Sustainable Development, and logistical support for public meetings of Prairie Adaptation Research Collaborative.
- Co-ordinated Manitoba Climate Change Action Fund administration. 18 proposals were reviewed, of which 10 were approved and 8 were declined. The Fund contributed $247,340 to projects with a total value of $1,177,826.
- Facilitated the first Canadian field trial/demonstration of a new renewable, made-in-Manitoba ethanol-blended diesel fuel formulation (e-diesel) between Manitoba transportation industry, Husky Oil Inc., Octel-Starreon/AEE, City of Winnipeg, and Winnipeg Transit.
- Continued Hybrid Vehicle Demonstration Project: two hybrid gasoline-electric vehicles (HEV's) promote economic, energy efficient, alternative technologies. HEV1 was used as a pool vehicle for Energy Office and Manitoba Industry, Trade and Mines.

Much of the work of the former Energy Programs and Policy Section was transferred to Manitoba Industry, Trade and Mines and to Manitoba Hydro.

Table CC.2
12.4(d) Climate Change

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	975.5	13.50	753.4	222.1	
Other Expenditures	362.9		260.7	102.2	
- Grant Assistance	18.5		17.1	1.4	
Total Other Expenditures	381.4		277.8	103.6	

Chapter 10

Forestry

Forestry Branch plans, manages and allocates forest resources for the long-term social, economic, and environmental benefit of Manitobans. Crown forests are managed sustainably for all users; harvest and renewal activities are implemented in a manner that conserves ecosystem diversity. The Branch encourages diversification and growth of the forest industry, emphasizing efficient utilization. To limit widespread tree mortality and timber losses, levels of protection are provided commensurate with social, economic, and environmental values at risk. The Branch advises and assists the public and industry in forest health and ecology for provincial Crown land, private woodlots and urban forests.

Forestry Branch oversees activity effectiveness to meet goals, reviews Forest Management Plans, and guides and informs Region managers and enforcement personnel on policies and procedures. The Branch provides a grant to the Manitoba Forestry Association and administers a Sustainable Development Innovations Fund grant for the Manitoba Habitat Heritage Corporation's agro-woodlot program.

The Branch completed its fourth ***Five Year Report to the Legislature on the Status of Forests in Manitoba*** (1996-2001) and assisted production of the policy document *Next Steps: Priorities for Sustaining Manitoba's Forests*. The Forestry Branch Website continued to be expanded. New insect and disease alert pages provide users up-to-date information on tree disease and insect outbreaks and sections have been added to describe forest renewal and forest planning programs. Staff worked with Manitoba Forestry Association to deliver a three-day workshop for teachers (*Forest-Ed*), and an environmental education competition, *Envirothon*.

Participation continued on the advisory committee for Manitoba Hydro's Forest Enhancement Program. This committee provides direction on annual allocation of over $340,000 to community and non-profit tree planting, research, and forest education.

The Manitoba Model Forest was supported by in-kind contributions, including two representatives who sit as Directors.

Administration

Administration establishes guidelines and ensures conformity to Department policies and government goals. It provides administrative support and personnel duties, prepares annual estimates, ensures expenditures conform to estimates and Department policy, controls funds, monitors efficiency and effectiveness of expenditures, and co-ordinates development of the annual work plan.

Table FO.1
12.4(e)1 Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	360.0	9.00	399.5	(39.5)	
Other Expenditures	502.3		434.1	68.2	
- Grant Assistance	153.4		153.4		

Forest Resources Management

The Section maps and determines type and productivity of forest stands, and tracks changes due to fire, harvesting and other impacts. Timber harvest is managed by setting harvest levels and planning requirements, and delivered by Region staff through plan approvals, enforcement, and inspections.

Software maintenance of the Geographic Information System continued to ensure effective management of the *Forest Resource Inventory* (FRI) database, and resource evaluations. Forest Management Units (FMU) 20 and 23 were re-inventoried and updated for forest fire depletion. The Section responded to information requests from Department staff, industry, consultants, academics, and the public.

The Forest Practices Initiative, to establish best-practices management guidelines, continued with guidebooks on protecting softwood understory in hardwood stands, forest road management, and pre-harvest surveys. Developed in consultation with other Branches and industry, these guidelines will link policy, regulations, operations, and inspections. Various forest practices were inspected and reviewed with Regional Operations and forest companies.

The tabular component of Silviculture Information System was in use in all Regions. Work continues on developing a GIS component, which will link tabular records to maps for comprehensive reporting and to maintain the FRI.

Digital orthophotos were used to improve base-mapping accuracy in Forest Management Units 20 and 23. Geomatics Branch continued to collect vector information for base features such as roads, rivers, lakes, and utility corridors for use by all resource users. Aerial Photography, 1:15000 scale, was obtained for FMU 12 and east half of FMU 11.

Transfer of typed photographs onto plotted digital orthophotos continues in advance of digitizing into the GIS. Photo-interpretation was completed in FMU 20 and 23, including identification of additional attributes such as moisture class, landform, height, year of origin, and ten-percent crown-closure classes.

The Branch entered into a three-year cost-shared agreement with Louisiana-Pacific Canada for a Forest Lands Inventory (FLI) pilot project for FMUs 13 and 14 in Mountain Forest Section. The pilot assist the company to develop a new long-term Forest Management Plan for their wood supply area and enables the Department to evaluate how best to implement a new forest inventory approach.

Forest Management Licensees (Tembec, Louisiana Pacific, and Tolko Manitoba) submitted annual *Operating Plans* for approval. The *Operating Plan* submitted by Mountain Quota Holders Association for portions of Mountain Forest Section was approved and operated under Tolko's *Environment Act Licence.*

The Branch completed a detailed wood supply analysis to establish interim (based on old forest inventory information) Annual Allowable Harvest levels for the sawmill complex proposed by Tembec and the First Nations Limited Partnership (FNLP), in Forest Management Licence Area #1 and Integrated Wood Supply Areas #1 and 2. The Branch initiated a timber volume-sampling contract to support the new forest inventory in Forest Management Licence Area # 1 and FMU 35. This information will be used to develop new yield curves for wood-supply modelling to determine sustainable harvest levels, replacing the interim AAC for FML #1.

Provincial tree-taper models were developed to improve determinations of merchantable volume of tree species. Growth-and-Yield equations were developed for wood supply analysis for the sawmill expansion proposed by Tembec and FNLP. The program continued to focus on collecting stem analysis data. A contract was made with University of Winnipeg to examine ecologically-based differences in tree taper. The permanent sample plot program continues to be maintained through re-measurement.

Table FO.2
12.3(e)2 Forest Resources Management

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	875.2	17.00	863.6	11.6	
Total Other Expenditures	723.6		940.1	(216.5)	

Forest Health and Ecology

The Section protects forests from damage by insects, disease and other factors, assists wildfire management, ensures all harvested Crown forest land is renewed to maintain ecosystem integrity and biodiversity, and advises and assists the public and industry on forest health and ecology.

The Forest Renewal Program (delivered by Regional Operations) is administered and co-ordinated. The Department and industry carried out forest renewal treatments on 11,741 hectares, including retreatments. Most of the area was planted (16 million trees), with scarification to promote natural regeneration on the rest. Except for some Department planting in Eastern Region, delivery was through tendered contracts.

Of 16,590 hectares harvested in 1998-99, 32% (5,248 ha) was treated for reforestation, and the rest left to regenerate naturally or be treated in future. Expanding harvest of poplar (about 28% of harvested area over past five years) increased area left to regenerate naturally, as poplar regenerates readily from root suckering. About 192 hectares of harvested area that had not restocked sufficiently was retreated by planting.

The Section maintains the pool of site-preparation equipment and co-ordinates use with Regional Operations. Renewal technology transfer to Region staff is provided through field trials and promoting innovation. Regional renewal programs are also supported through administration and co-ordination of silviculture contracts and assisting planning and delivery of vegetation management projects.

Tembec/Pine Falls Paper and Tolko Manitoba hired contract surveyors for regeneration surveys, and staff to check survey results. Louisiana-Pacific utilizes company staff to survey. The Section tested Branch, contract, and company surveyors. Tembec completed surveys with two individuals, Tolko had eight, Louisiana-Pacific had three, and the Department had five. All obtained *Regeneration Surveyor Licenses*. An audit of Tembec, Tolko and Louisiana-Pacific surveys and check surveys was successful, and *Certificates of Reforestation* were issued.

Regeneration surveys, to determine success of forest renewal, were performed on 10,536 hectares. The Branch surveyed 3,714 hectares while licensed regeneration surveyors from Tolko surveyed 5,160 hectares, Louisiana-Pacific surveyed 1,292 hectares, and Tembec surveyed 370 hectares.

The Branch performed *Free-to-Grow* (*FTG*) surveys on softwood-dominated forest stands, 15-20 years old, to determine if they are developing appropriately. Two techniques were used, full and extensive. Full-survey technique was used on 1,547 hectares and extensive technique on 1,198 hectares. Draft documents were provided to industry, detailing strategy proposed for implementing *FTG* surveys. Staff also trained surveyors from Tembec to perform *FTG* surveys, which they conducted on 2,136 hectares. Tolko is scheduled to commence FTG Surveys in 2003, and Louisiana-Pacific in 2008.

Surveys, efficacy tests, and research on significant insects and diseases were conducted. Significant pests included spruce budworm, jack pine budworm, elm bark beetles, forest tent caterpillars, western gall rust, armillaria root rot, and pine root collar weevil. Forest health data was collected in regeneration, *FTG*, and pre-harvest surveys, to develop management prescriptions, and track substantially infected stands.

Spruce budworm infested about 113,418 hectares. About 14,766 hectares of spruce/fir were moderately to severely defoliated in Tembec's Forest Management License Area (FMLA), and in Nopiming, Whiteshell, and Hecla Provincial Parks. There was no defoliation mapped in Duck Mountain Provincial Forest, in Louisiana-Pacific's FMLA. Infestation in the northwest, in Tolko's FMLA, expanded again, to 94,745 hectares. The outbreak in Spruce Woods remained stable at 3,900 hectares. Emergency funding was provided to enable spraying biological insecticide, *Mimic*, on 18,520 hectares in Athapapuskow Lake area (Tolko).

Dutch elm disease (DED) management seeks to reduce annual mortality to 3% or less by cost-shared agreements with municipal governments. Major urban centres with cost-sharing agreements are Brandon, Portage la Prairie, Morden, Winkler, Dauphin, Steinbach, and Selkirk. 14,313 elms were removed from 38 cost-share communities and seven urban-buffer-zone municipalities. Due to excellent working conditions through winter, crews removed the backlog (removals are up-to-date for the first time in several years). There were 10,036 elms marked for removal in cost-share communities and Winnipeg buffer zone (which, through emergency funding, was expanded). High levels of DED persist along rivers, especially Red, Assiniboine, Boyne (near Carman), and Souris Rivers.

Widespread moderate and severe defoliation by forest tent caterpillar occurred through much of Whiteshell, Nopiming, St. Malo and Hecla Provincial Parks and in Municipalities of Victoria Beach, St. Clements, Whitemouth, Reynolds, Lac du Bonnet, Brokenhead, Ste. Anne, Springfield, Tache, Hanover, La Broquerie, and Alexander. Localized moderate and severe defoliation was observed in the Interlake and west. No defoliation was detected in Northwest Region.

A fall egg-band survey was carried out to predict forest tent caterpillar defoliation in 2002. Nil to light defoliation is expected in northwest. Generally light to moderate defoliation is predicted through the west, with localized severe defoliation expected in the Rossburn, Roblin, and south Duck Mountain and Assessippi Parks. In southwest, light to moderate defoliation is predicted. In Interlake, moderate to severe defoliation is predicted for Hecla Provincial Park, Grindstone Peninsula and the Lake Winnipeg beaches, while mainly light defoliation is expected in Woodlands and St. Laurent. Moderate and severe defoliation is predicted in southeast from Red River to the Ontario boundary. This includes Municipalities of Victoria Beach, Whitemouth, Reynolds, Lac du Bonnet, Brokenhead, Ste. Anne, Springfield, Hanover, Tache, St. Clements and Alexander, plus Grand Beach, Whiteshell, Saint Malo and Nopiming Provincial Parks.

Measurement of softwood decay was initiated to develop cull factors for growth and yield models. Jack pine budworm populations remained low.

Fire Program is assisted by identifying values at risk, reviewing *Forest Management Licencees*' annual fire control plans, and participating in Canadian Forest Service's National Fire Database mapping.

Table FO.3
Forest Renewal Activities

	Manitoba Conservation	Tembec/ Pine Falls	Tolko Manitoba	Louisiana-Pacific	Total
Area Treated (hectares)	2,510	1,105	5,836	2,098	11,549
Area Retreated (hectares)	190	0	0	0	192
Total Treated Areas	2,702	1,105	5,836	2,098	11,741
Total Trees Planted (1000s)	**3,538**	**1,578**	**8,104**	**2,802**	**16,022**
Total Area Site Prepared for Renewal Treatment (hectares)	853	612	3,585	198	5,248
Total Area Tended (hectares)	677	110	1,393	132	2,312
Total Cones Collected (hectolitres)	41.3	0.0	50.0	93.5	184.8

The Section co-operated on a study with University of Winnipeg Centre for Interdisciplinary Forest Research and Tembec to compare effects of harvest and natural disturbance on biodiversity, using arthropod indicators.

The Tree Improvement Program consists of eight industry co-operatives with Tolko, Louisiana Pacific, and Tembec and six provincial programs. 13 seed orchards, (69.5 hectares.), and 24 family tests (83.1 hectares.) have been established. Improved jack pine seed is available in three breeding zones, and improved seed will soon be available from two black spruce and one white spruce seed orchards.

Table FO.4
12.4(e)3 Forest Health and Ecology

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	2,045.2	23.06	1,786.6	258.6	
Total Other Expenditures	1,987.4		2,637.2	(649.8)	

Forest Economics and Marketing

The Section promotes a sustainable, diversified, and integrated forestry industry, and manages tenured Crown land to ensure consumption of timber is consistent with provincial legislation and administrative requirements. Manitoba's primary forest industry employs about 10,000 people directly and indirectly.

Crown roundwood harvest totaled 2,078,815m^3. This volume was harvested by three *Forest Management Licencees*, 198 *Timber Sale Agreement* holders and 2,893 *Timber Permitees*. Revenue totaled $6,534,936, of which 67% is Crown Timber Dues.

Tembec's new thermal-mechanical pulp mill operated its first year without problems. Tembec continued negotiations on a joint sawmill/woodlands venture with a combination of First Nation communities from Interlake and east of Lake Winnipeg.

Discussions continued this year with Tolko regarding status of their Forest Management Licence area and potential hardwood allocations. Stakeholder consultations were held in Western Region to discuss potential withdrawal of the "southern area" from Tolko's Area. Low lumber prices caused some interruptions of Tolko's sawmill operation during the year. Manitoba's other major lumber producer, Spruce Products Limited, operated through the year and concluded successful first year operations of their animal-bedding chip plant and a second dry kiln facility.

Analysis of Crown Timber Dues rates, subject to the *Manitoba Forest Products Price Index*, indicated a very small Dues increase in two Forest Sections.

The Branch worked with Manitoba Industry, Trade and Mines to represent Manitoba in U.S. Department of Commerce's countervail investigation of softwood lumber imports from Canada. The Branch provided questionnaire responses, co-ordinated the company exclusion process, and participated in bilateral discussions to find a non-litigated solution to the trade dispute.

The Section responded to numerous inquiries about forest industry development opportunities. Interested parties ranged from local operators wanting to expand business, to European multi-nationals investigating wood availability. Manitoba has hardwood (primarily aspen) resources that could support development, particularly in the north, through Aboriginal partnerships.

The Forestry Branch assisted development of *Next Steps; Priorities for Sustaining Manitoba's Forests*, which builds on past policy work. *Next Steps* outlines Manitoba's commitment to increase scientific and traditional knowledge, enhance stewardship, increase employment and economic opportunities for Aboriginal communities, promote a sustainable forest economy, and update legislation and guidelines.

A metric scaling license certification course was given to 18 candidates from government, industry, and community organizations. The course expanded use of aspen poplar and birch in the stacked measure component, due to increased harvest. General compliance check scales and weight factor review work at Roblin Forest Products continued, and special field scales were conducted as part of Regional Operations' enforcement activities.

In co-operation with Canadian Forest Service and Manitoba Industry Trade and Mines, a science-and-tech intern was hired to develop primary and secondary wood-using industry directories. Both directories were completed and the *Primary Industry Directory* was published. The partners and intern gave a seminar to 170 participants on marketing aspects of product certification.

The Department continued on Canadian Forest Service's First Nations Forestry Program. This program, funded by Canada, is delivered by a team comprising First Nations organizations, industry and government (federal and provincial). The Section represented the Branch on the Department's Aboriginal Consultation working group.

The Branch continued grant to Manitoba Forestry Association ($130,000) for woodlot program delivery. The Branch also administered a $312,000 Sustainable Development Innovations Fund grant for Manitoba Habitat Heritage Corporation's agro woodlot program to deliver similar services in southwest. The Branch continued to provide a forester to manage the MHHC woodlot program. Based on requests for management plans and increased demand for private-land aspen timber, locally and from USA, interest in the program is growing.

Table FO.5
12.4(e)4 Forest Economics and Marketing

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	359.8	9.00	489.7	(129.9)	
Total Other Expenditures	65.7		50.7	15.0	

Forest Regeneration Stock

7 million seedlings were purchased for planting by Manitoba Conservation, Tembec, and Louisiana Pacific from Pineland Nursery. (Tolko purchases seedlings independently.) This appropriation is also used for seed collection, extraction, and storage, transporting seedlings to the field, and a stock identification system.

Table FO.6
12.4(e)5 Forest Regeneration Stock

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	1,584.6		1,411.9	172.7	

Chapter 11

Fisheries

Fisheries Branch ensures sustainable development of fisheries resources. Management programs are developed to provide greatest benefits to Manitobans, by maintaining or enhancing populations and habitat, monitoring harvest and habitat alterations, and allocating resources for best return. The Branch directs and reports on programs and budgets, legislation and policy, standards and guidelines, and co-ordination and monitoring. The Branch also administers the Northern Fishermen's Freight Assistance Program.

Programs are implemented by Region staff: Region Fisheries Managers, under Operations Division, report to Region Directors responsible for operational decision-making and program delivery.

Winnipeg's Urban Angling Partnership, comprising Mid-Canada Marine Dealers Association, Manitoba Wildlife Federation, Fish Futures Inc, *The Complete Angler*, City of Winnipeg, and government of Manitoba, expanded a number of programs. Opportunities provided for residents and visitors to participate in recreational angling included:
- Learn to Fish Clinics,
- Winnipeg Fish Festival,
- Fish Winnipeg Media/Corporate Challenge (monies raised for youth angling programs), and
- Catfish Hunter Initiative (in co-operation with Winnipeg Goldeyes baseball team).

A Sustainable Development Website was developed to integrate sustainable development concepts into the new Kindergarten-Grade 8 *Science: Manitoba Curriculum Framework of Outcomes*. The site is a Manitoba first in integrating fisheries management information into a science curriculum via the Internet. The site was promoted at teacher workshops and conferences, including the Special Areas Group (Science) workshop. Work will continue with educators to develop exercises for Grades 9 and 10, for implementation in fall 2002.

The second phase of the Fisheries Information Corporate Database was completed. The system will provide staff with efficient and effective access to fisheries information. Continued development will incorporate remaining databases.

An electronic data-transfer linkage with Freshwater Fish Marketing Corporation was established. This will provide up-to-date information and a more efficient means to respond to production inquiries.

Participation continued in ecosystems-based management (EBM) pilot project in Lac Seul Upland ecoregion, east of Lake Winnipeg. Three reports were released: *Socioeconomic Study*, *Land Use Studies*, and *Values Team Final Report*. Release of the *Science Team Final Report* and the *Executive Summary* is targeted at June 2002. The significant information/databases generated should be of great benefit for the Department's planning east of Lake Winnipeg.

At Whiteshell Fish Hatchery, the Visitor Centre was officially opened. Park interpreters staff the building and gave tours to over 2,800 people, to September long weekend. The Centre provides a sheltered area to begin tours, washrooms, and drinking water. Interpretative exhibits include information on species reared at the Hatchery, life stages of fish, how water is used, history of the Hatchery, and the like.

The Branch continued to participate in the national Recreational Fishing Task Group and co-chair the national Freshwater Fish Strategy Task Group. These Groups, reporting to Canadian Council of Fisheries and Aquaculture Ministers, are developing co-ordinated action plans that involve stakeholders and maximize management efficiency and effectiveness.

Administration

This section provides annual estimates, financial and personnel services, and administrative support.

Table FI.1

12.4(f)1 Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	125.1	2.00	124.4	0.7	
Total Other Expenditures	203.8		199.5	4.3	

Fish Culture

Stocking programs create new self-sustaining fisheries, maintain and enhance fisheries where natural reproduction fails or winterkill occurs, and introduce species. Fish are produced at Whiteshell and Grand Rapids Hatcheries, the latter co-funded by Manitoba Hydro. A seasonal walleye hatchery is operated at Swan Creek, near Lundar on Lake Manitoba.

Only 8.1 million eggs were collected from walleye captured in Swan Creek in 2001, due to high water conditions and ice problems. Swan Creek Hatchery incubated 14.4 million eggs, including shipments from Falcon Creek (2.8 million) and Basket Creek (3.5 million). 10.7 million fry were distributed to Central Region sport and commercial fishery lakes (9.7 million) and Lake Winnipegosis (1 million). An experimental spawn-taking operation for sauger on Lake Winnipeg collected 330,000 eggs, incubated to eye-up stage and stocked into Lake Manitoba.

At Whiteshell Hatchery, 15.9 million walleye eggs were collected from Falcon and Hamilton Creeks. The Hatchery incubated 13.1 million eggs (2.8 million eggs were shipped to Swan Creek) producing 12 million fry. Due to the small production at Swan Creek Hatchery, walleye fry from Whiteshell were stocked in sport-fishing waters in the central (3 million), southwest (2.2 million), western (0.97 million) and southeast (2.2 million) areas, including 2.1 million fry to Falcon Lake as replacement, and 5.89 million to east/southeast lakes and rearing ponds.

Grand Rapids Hatchery satellite spawn camps at Basket and Powderhorn Creeks at north end of Lake Manitoba, and Birch Bay Drain near Lake St. Martin, produced 16.5 million eggs, of which 3.8 million were shipped to Swan Creek. There is an obligation under the Grand Rapids Hatchery co-funding agreement with Manitoba Hydro to stock the Saskatchewan River at Grand Rapids, where Hydro seeks to re-establish a self-sustaining walleye population. Green eggs (200,000) and eyed eggs (400,000) as well as fry (3.3 million) were stocked into Saskatchewan River spillway channel at Grand Rapids. Replacement stocking to Basket/Powderhorn Creeks and Birch Bay Drain totaled 1.8 million.

Two volunteer spawn camps brought eggs to Grand Rapids Hatchery: from Overflowing River at the northwest end of Lake Winnipegosis (6.2 million), and from Newunetan River near Notigi Lake (10.1 million). Walleye fry (3.1 million) from Basket Creek were stocked in sport and commercial lakes in Western Region and Northeast Regions (Setting Lake). Fry (3 million) from Overflowing River were stocked back into Lake Winnipegosis and its associated rearing ponds, and Steeprock Lake, a sport-fishing lake in Porcupine Hills. The 2.9 million fry from the Newunetan River were all stocked into lakes and rivers in Northeast Region.

Grand Rapids Hatchery received 33,608 eggs from a sturgeon captured in Landing River where it enters Nelson River, which produced 23,702 fry. 500 fry were shipped to Pinawa for a feeding research project, from which the resultant 158 fingerlings were stocked into the Assiniboine River. 18,550 fingerlings were stocked back to Nelson River to enhance stocks, and 100 were used in educational aquaria in Manitoba and Saskatchewan.

14.4 million whitefish fry hatched at Grand Rapids Hatchery from 22.9 million eggs from Lake St. Martin. 12 million fry were stocked in Cross Lake under the Hatchery co-funding agreement with Manitoba Hydro; 2.4 million were stocked in Lake St. Martin as replacement for eggs collected

Trout and char were produced at Whiteshell and Grand Rapids Hatcheries. Species raised at Grand Rapids included lake trout, splake, brook trout, and rainbow trout. Of 1,205,963 lake trout eggs collected from Clearwater Lake, 993,764 were fertilized on collection and transported to Grand Rapids Hatchery for incubation or stocked back to reefs in Clearwater Lake as replacement (115,000). The remaining 97,199 unfertilized eggs were transported to Grand Rapids and fertilized with sperm from resident brook trout to produce hybrid splake. Lake trout and splake eggs were incubated over the winter at Grand Rapids. Species raised at Whiteshell Hatchery included rainbow trout, brook trout, brown trout, Arctic char, Arctic char *x* brook trout hybrid, plus lake trout and splake that had been transferred from Grand Rapids Hatchery.

The Section continued assisting volunteer organisations to enhance local stocks. Groups at Lonely Lake Drain, Lynchs Point, Warpath/Dauphin River, Overflowing River, and Newunetan River were involved in walleye spawn collection and/or incubation projects.

Table FI.2
Distribution to Sport Fishing Waters from Fish Hatcheries

Species	Fry and Eggs	Fish <18cm long	Fish ≥18cm long
Arctic Char	0	10,000	92
Char X Brook Hybrid	0	51,750	0
Brook Trout	0	93,950	21,000
Brown Trout	700,000	131,500	12,300
Lake Trout	115,000 eggs	457,650	0
Rainbow Trout	0	340,200	69,750
Splake	0	65,000	0
Sauger	151,800	0	0
Walleye	14,660,000	1,800	0

(Excludes stocking to waterbodies with both sport and commercial fishing, such as Lake Manitoba.)

Table FI.3

12.4(f)2 Fish Culture

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	682.0	15.19	657.8	24.2	
Total Other Expenditures	259.3		279.4	(20.1)	

Fisheries Habitat Management

The Section supports conservation, evaluation, restoration, and enhancement of fish habitat to achieve a net gain in healthy, productive fish habitats and stocks.

The Section reviews proposed developments that may affect surface waters, fish, and habitat, and recommends measures for mitigating or avoiding adverse impacts. 65 *Proposals* were reviewed under ***The Environment Act***, ranging from water-treatment plants, wastewater treatment lagoons, and land disposal of sludge, to mine developments or closures, potato processing plants, warehouse and fertilizer storage, crop protection warehouses, water withdrawals, and bridge projects. 132 other proposals were reviewed: 88 miscellaneous, 38 pre-licensing environmental screening, 2 dangerous goods and transportation handling, 2 draft *Licences*, and 2 draft *Environmental Impact Assessment Guideline* reviews.

In continuing to address concerns with planned introductions of aquatic organisms, the Section assisted developing *National Code on Introductions and Transfers of Aquatic Organisms,* signed by the Canadian Council of Fisheries and Aquaculture Ministers. In keeping with the *Code*, the Committee on Introductions and Transfers of Aquatic Organisms in Manitoba was created to conduct risk assessments and provide advice to the Minister on proposals for introductions or transfers into and within Manitoba.

The proposed outlet plan to release water from Devil's Lake, North Dakota into the Red River system continued to raise concerns about transfer of exotic species and degradation of water quality. The U.S. Army Corps of Engineers' *Draft Integrated Planning Report and Environmental Impact Statement* for the project was reviewed; comments on fisheries issues will be incorporated in a presentation to the Corps.

Instream flow issues continue to be particularly significant. As development continues on the Assiniboine River, establishment of instream flow reservations for protection of fish and habitat is a high priority. A committee from Manitoba Conservation, Fisheries and Oceans Canada, and University of Manitoba continues work to determine quantity and timing of water needed. Field measurements were made along the Assiniboine River to determine water elevations required to fill the channel to bankfull and to recharge oxbows. These elevations are converted to flow volumes, to ensure that historic patterns are sustained. Representative fish species and lifestages were selected to develop flow/habitat relationships at four sites along the river. These relationships will be built into the instream flow recommendation.

The Section leads developing drainage guidelines to meet the needs of the Canada *Fisheries Act*. There is a lack of a common, clear understanding of habitat protection requirements (technical requirements and process) in waterway maintenance, construction and reconstruction. This work is to ensure that all resource interests are accommodated during all phases of waterway construction and alteration projects where Manitoba, municipalities or Conservation Districts are proponents. A committee of Fisheries and Oceans Canada biologists and Department staff will create a comprehensive, but simple, process to guide all parties through preplanning, planning, construction and followup phases of waterway maintenance, and establish design and construction guidelines for maintenance to ensure that pre-alteration ecological functions are sustained.

The Urban Stream Stewardship Organizing Committee continued workshops on stream ecology and related issues. The denil fishway at Grant's Old Mill on Sturgeon Creek was retrofitted with a fishtrap and fish passage is being monitored; landscaping followed. A Management Plan for the creek is being planned. Willow bundles were planted along a reach of Bunns Creek. This soil bioengineering technique uses vegetation to stabilize and revegetate eroded banks to a more natural state. Bioengineering techniques are used alone or in conjunction with rock armouring.

A report summarizing Little Saskatchewan watershed planning, implementation, and site costs was completed. This will be reworked into a public information brochure.

Watershed restoration projects increase as a comprehensive, multi-faceted approach to join user groups and agencies in restoring health and function to watersheds. Modelled after successful Dauphin Lake and Little Saskatchewan River initiatives, this is being applied to Upper Whitemud River Watershed, Brokenhead River, Valley River, selected Lake Manitoba north basin (east side) tributaries, and certain Souris River tributaries.

In Upper Whitemud River watershed, a habitat survey on Stony Creek was initiated. Stony Creek is a natural-reproduction brook trout stream targeted for riparian protection/enhancement work by Upper Whitemud Watershed Committee. Sites were identified and priorized in an *Inventory Report* (1999). Habitat surveys of pristine and cattle-impacted reaches will permit comparison with results of rehabilitation work. Information collected included substrate type and size, pool depths, water velocities, bankfull and present stream widths, riparian condition and species type, and reach profiles. Brook trout redds (spawning nests) were identified. A study was initiated on Brookdale Drain to identify sediment loading sites that may be impacting Lake Irwin.

The Lake Manitoba Enhancement Committee and partners hired a consultant to complete an in-depth fishery assessment of Powderhorn Creek. Staff from Manitoba Agriculture and Food worked with landowners to implement fencing and off-shore waterers. The Enhancement Committee plans to direct its effort to Watchorn Drain.

Staff continue participation in *Manitoba Envirothon* by preparing test questions and assisting field day logistics. *Envirothon* is an annual Olympic-style academic and environmental program. High school students (Grade 9-12) are tested in four discipline areas (aquatics, forestry, soils, and wildlife) and an annual theme (this year: *Introduced Species and their effect on Biodiversity*). This year's is a joint competition with North Dakota, held at International Peace Gardens; 21 Manitoba school teams entered. The winning team from North Dakota and Manitoba will represent their state and province at the *National Canon Envirothon* in Massachusetts.

Table FI.4

12.4(f)3 Fisheries Habitat Management

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	343.3	8.00	446.8	(103.5)	
Total Other Expenditures	105.6		61.5	44.1	

Sport and Commercial Fishing Management

The Section develops, administers, and evaluates management programs and policies for sport, commercial, and domestic use, including commercial bait-fishing and trout farming. It also manages Northern Fishermen's Freight Assistance Program, distribution and reconciliation of commercial fishing licences, and fish production information.

To increase use of all commercial fish species, the Department and Freshwater Fish Marketing Corporation (FFMC) are developing access to direct-marketing for commercial fishers. The Branch is assisting developing a *Manitoba Special Dealers Licence*, to be issued by FFMC, to increase opportunity for marketing fish directly to Manitoba consumers. (For marketing outside Manitoba, FFMC issues an *Export Dealers Licence.*)

The Section co-ordinated an audit of *Commercial Fishing, Commercial Bait Fish* and *Commercial Live Bait Dealers* licensing functions for 1998-99 and 1999-2000. Key recommendations made by Internal Audit and Consulting Services, Manitoba Finance, included full and accurate completion of *Issuance of Receipt for Money Forms* for distributing *Licences* to entities outside the provincial government, *Revenue Remittances* (weekly, for remittance of *Licence* revenue) and *Money Remittance Orders.*

Manitoba Conservation is working with First Nations and other stakeholders to develop fisheries management approaches that accommodate constitutional obligations and other stakeholder interests. Staff assisted Region staff working with stakeholders in Dauphin Lake fishery, to negotiate an agreement and co-management plan governing harvest of walleye, and began to discuss a management approach with Region staff and Sagkeeng First Nation for Winnipeg River sturgeon.

Following consultations with West Region Tribal Council and local user groups, the Department enacted fisheries regulations to assist managing walleye in Dauphin Lake. For Dauphin Lake and all in-flowing tributaries, all walleye between 45 cm and 70 cm must be released. This applies all year, to all users. Walleye within the prohibited slot may only be harvested by First Nations people under the authority of a *Permit* issued by the Department in consultation with the Tribal Council. From March 1 to and including the second Friday in May, all in-flowing tributaries to Dauphin Lake and parts of Dauphin Lake within a kilometre of the mouths of in-flowing tributaries are closed to all fishing, including dip netting.

Director's Authorizations, which allow small retailers to sell fish for commercial fishermen, were processed for 37 fishermen consigning fish to four retailers. Sales under *Authorizations* totalled 20,476 kgs (45,141 lbs), of which 70% was pickerel/sauger.

Lake Winnipegosis

Assessment continued on broadening representation on the Advisory Board to include the full range of fishery interests, including commercial fishing, Aboriginal, and tourism. To facilitate this, a sub-regional round table is being considered and output from this exercise would include recommendations on key elements of rehabilitation and management of walleye stocks. During open-water and winter fisheries, pickerel production was 169,000 kg (372,575 lbs), 20.5% below last year.

Lake Winnipeg

A commercial fishermen's advisory body was established to address short-term issues and assist developing a longer-term strategy. It is hoped that a mutually-agreeable, publicly-acceptable strategy can be developed to sustain a healthy, viable commercial fishery. During open-water and winter fisheries, pickerel production (3.2 million kg) was down 13% while whitefish production (1.8 million kg) was up 20%, and sauger production (659,400 kg) increased by 18%.

Lake Manitoba

Following extensive consultations with stakeholders (commercial fishermen, West Lake and Narrows Game and Fish Association, Lake Manitoba Fish Enhancement Committee, Manitoba Wildlife Federation), a limited winter perch fishery using 3" mesh nets was authorized. In South Basin, concerns about pickerel and sauger stocks caused 3" mesh to be prohibited in key areas; in North Basin, 3" fishery was discontinued. Pickerel production (261,500 kg) in winter was 37% below last year, while sauger production (14,700 kg) declined by 47%, and perch production (444,300 kg) dramatically increased by 81%.

Other Programs

A manuscript report, *Fisheries surveys of Duck Mountain Lakes*, was completed. Routine analyses of 2001 Cedar Lake, Lake Winnipeg, Wekusko Lake, Kississing Lake and Lake Manitoba index netting and commercial catch sampling data were completed. Results of the Wekusko Lake fish monitoring program were presented to Snow Lake citizens. 10 years of Lake of the Prairies index netting data were analyzed. Effects of flows and lake levels on Lake of the Prairies walleye cohorts were modelled for Clean Environment Commission hearings. A DNA analysis of walleyes from Saskatchewan River system showed considerable mixing of walleye stocks from Cross Bay, Cedar Lake, Moose Lake and Saskatchewan River. 10 years of index-netting data from Lac du Bonnet were analyzed and results were presented to various angler groups in Lac du Bonnet. A Virtual Population Analysis of Lake Winnipeg walleyes was completed. This allowed reconstruction of the "natural capital" required to support Lake Winnipeg commercial fishery. Work on climate effects on Lake Winnipeg whitefish commenced with a research group from Freshwater Institute. Lab staff aged 21,363 fish scale samples and processed 12,893 fish samples. Analysis of long-term trends in Dauphin Lake walleye stock commenced. The first Saskatchewan River sturgeon population size estimate was made from tag-recapture program.

Work continued with Island Lake fishermen to manage and administer the fishery. This includes continued access to the Northern Fishermen's Freight Assistance program (NFFA), provided to Island Lake fishermen directly by the Department. Commercial production of (2001) summer fishery was about 20,138 kg marketed weight for about 16 fishers. Freight subsidy totalled $674.

Chemawawin Cree Nation (CCN) has voluntarily ceased fishing Cedar Lake in hopes of regenerating the fishery in time to restart in 2003. Number of fishers may be reduced to 40 from 81. CCN has the support of Easterville Mayor and Council and fishers in their efforts to resolve fishery questions. Fisheries Branch continues to work with the new Cedar Lake commercial fishermen's organization on development of a Fisheries Management Plan.

Fisheries Branch is assisting Region staff with the Summerberry Group Commercial Fisherman's Inc.'s (SGCFI) draft management agreement on operation of the commercial fishery in the resource area of Mosakahiken Cree Nation. The Province is negotiating with Moose Lake Community for a Settlement Agreement on outstanding issues relating to Grand Rapids Generating Station. The settlement will provide for establishment of a Resource Management Board and the proposed agreement with SGCFI will be subject to review by the Board.

There were 29 licensed fish-farmers and about 880 hobby farmers in private waters. Four major operators (two fingerling producers and two brokers/importers) distribute fingerlings to hobby farmers each spring. One fee-for-fishing business, where customers pay to fish in privately-stocked ponds or Crown waters, provides easy access to fishing from shore, ideal for small children and individuals otherwise unable to angle. Fish farmers reported selling 190,000 rainbow trout fingerlings. Grow-out operations sold 15,530 kgs of rainbow trout and 27,730 kgs of arctic char.

75 commercial baitfish fishers were licensed, producing about 87,800 kgs of frozen baitfish. 43 live-bait fishers produced about 117,000 dozen baitfish. Gross sales were about $705,200. 32 *Leech*

Licences were issued, with about 1,650 kgs produced, valued at about $83,125. 60 *Live Bait Dealer Licenses* were issued, allowing retail sale of live baitfish and leeches.

Fisheries Branch continues to co-ordinate the Urban Angling Partnership (UAP), comprising Manitoba, Winnipeg, Manitoba Wildlife Federation, Fish Futures, Mid-Canada Marine Dealers Association, and Don Lamont of *The Complete Angler*, that promotes angling in the city, especially the excellent opportunities on Red and Assiniboine Rivers. UAP activities included:

- *Learn to Fish Clinics*, offered through Winnipeg Community Services Department Leisure Program, aimed at families, new anglers, and those who have not fished for some time. Tackle dealers provide bait, tackle, and instruction, while manufacturers provide equipment. Fish and game clubs provide volunteer assistance.
- *Winnipeg Fish Festival*: a one-day event at The Forks, showcases the recreational angling community and promotes angling in the city as an affordable leisure activity. An estimated 5,000+ visitors attended fish-filleting demonstrations, kids' fishing educational stations, fishing displays, arts and crafts, on-stage seminars, and casting competitions.
- *Fish Winnipeg Media/Corporate Challenge*: a one-day event exposing media and corporate communities to this world-class recreational fishery. The event introduces Winnipegers to this fishery, showcases the angling community, promotes angling as a healthy, self-esteem-building outdoor leisure activity for youth, and raises funds to benefit Winnipeg youth/youth-at-risk angling programs. Over $10,000 was raised that was targeted at inner city youth-at-risk, and about 600 children enjoyed an angling experience. Plans for 2002 include expansion of the event and additional kids' fishing camps.
- Angling access development: improving access enhances popularity of urban angling. UAP members developed fishing platforms to complement existing public docks, and increased riverbank access along Red River. Work will continue on development and enhancement of access sites along Winnipeg river and stream corridors.
- *Catfish Hunter Initiative*: working in co-operation with Winnipeg Goldeyes Baseball Club, UAP assisted development and implementation of the Winnipeg Goldeyes Catfish Hunter Contest. The contest promotes angling and profiles the world-class fishery on Red and Assiniboine rivers.

The 2002 ***Anglers' Guide***, published under contract with Fish Futures, summarizes angling regulations, highlights new and proposed regulations, and includes management and other information. Anglers and user groups continued an important role in developing regulations; attention is directed towards simplification without diminishing conservation.

Promotion of angling included distribution of materials at Mid-Canada Boat Show, mall events, fishing clubs, festivals, and schools. Urban fishing and angling regulations were emphasized.

Preliminary results of the *2000 Survey of Recreational Fishing* are now available. Compared to 1995 results, Manitobans and visitors to Manitoba increased the amount of time spent fishing, from 2.2 million angling days in 1995, to 2.7 million days in 2000. The total number of fish caught rose from 9 to 14 million, with significant increases in walleye, pike and perch catches. Manitoba's strong catch and release tradition continued: over 75% of the catch was released. Direct expenditures by anglers increased from $77 to $120 million, with non-residents accounting for 51%.

The Branch continued to assist Manitoba Wildlife Federation with the Recreational Fishing League for youth ages 9-15. The season concluded with the Dauphin team winning the 2001 championship. Nine teams competed over a six-week season, from near end of May to end of June. With support of Mid Canada Marine Dealers Association and Pure Fishing Canada, the League intends to expand operations.

Table FI.5
12.4(f)4 Sport and Commercial Fishing Management

Expenditures by Sub-appropriation	Actual 2000/01 $	FTE	Estimate 2000/01 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	630.7	12.00	621.5	9.2	
Total Other Expenditures	66.4		70.0	(3.6)	

Table FI.6
Angling Licence Sales and Revenue 1991-92 to 2000-01

Year	Resident/Manitoba – Sr. Conservation			Total: Resident of Manitoba	
	Number	Fee $	Revenue $	Number	Revenue $
1997-98	7,878	5.61	36,615.58	7,878	36,615.58
1998-99	8,700	5.61	40,315.00	8,700	40,315.00
1999-00	8,935	5.61	41,411.35	8,935	41,411.35
2000-01	8,532	5.61	39,537.52	8,532	39,537.52

Year	Resident of Canada-Regular			Resident of Canada-Conservation			Total: Resident of Canada	
	Number	Fee $	Revenue $	Number	Fee $	Revenue $	Number	Revenue $
1991-92	69,250	10.00	658,506.00	76,790	5.00	345,969.50	146,040	1,004,475.50
1992-93	64,496	10.00	613,343.50	77,358	5.00	348,538.50	141,854	961,882.00
1993-94	58,833	12.50	706,624.50	73,227	7.50	512,963.00	132,060	1,219,587.50
1994-95	57,783	12.50	694,044.00	77,716	7.50	544,498.00	135,499	1,238,542.00
1995-96	55,235	12.50	663,355.00	76,844	7.50	538,289.00	132,079	1,201,644.00
1996-97	52,158	12.50	626,742.00	75,081	7.50	526,422.50	127,239	1,153,164.50
1997-98	51,859	14.02	676,760.18	73,603	8.41	546,849.23	125,462	1,223,609.41
1998-99	57,381	14.02	748,238.62	84,000	8.41	623,386.00	141,381	1,371,624.62
1999-00	57,567	14.02	750,690.37	84,938	8.41	630,356.58	142,505	1,381,046.92
2000-01	56,092	14.02	731,276.84	85,256	8.41	632,700.96	141,348	1,363,977.80

Year	Non-Resident of Canada – Regular			Non-Resident of Canada- Conservation			Total: Non-Resident of Canada	
	Number	Fee $	Revenue $	Number	Fee $	Revenue $	Number	Revenue $
1991-92	9,667	30.00	285,279.50	18,381	15.00	266,725.50	28,048	552,005.00
1992-93	9,316	30.00	274,922.50	19,868	15.00	288,316.00	29,184	563,238.50
1993-94	8,770	32.50	280,744.00	20,742	17.50	352,905.50	29,512	633,649.50
1994-95	8,299	32.50	265,668.50	21,906	17.50	372,702.50	30,205	638,371.00
1995-96	7,821	32.50	250,369.50	22,448	17.50	381,856.00	30,269	632,225.50
1996-97	6,840	32.50	218,945.50	21,757	17.50	370,199.50	28,597	589,145.00
1997-98	6,712	37.38	244,557.56	23,406	20.56	458,473.36	30,118	703,030.92
1998-99	7,149	37.38	260,237.62	26,223	20.56	513,312.88	33,372	773,550.50
1999-00	7,192	37.38	261,840.96	27,151	20.56	531,532.56	34,343	793,373.52
2000-01	6,130	37.38	223,166.40	29,959	20.56	586,452.04	36,089	809,618.44

Year	Total Regular Licences			Total Conservation Licences			Total Licences	
	Number		Revenue $	Number		Revenue $	Number	Revenue $
1991-92	78,917		943,785.50	95,171		612,695.00	174,088	1,556,480.50
1992-93	73,812		888,266.00	97,226		636,854.50	171,038	1,525,120.50
1993-94	67,603		987,368.50	93,969		865,868.50	161,572	1,853,237.00
1994-95	66,082		959,712.50	99,622		917,200.50	165,704	1,876,913.00
1995-96	63,056		913,724.50	99,292		920,145.00	162,348	1,833,869.50
1996-97	58,998		845,687.50	96,838		896,622.00	155,836	1,742,309.50
1997-98	58,571		921,317.74	104,887		1,041,938.17	163,458	1,963,255.91
1998-99	64,530		1,008,476.24	118,923		1,177,013.88	183,453	2,185,490.12
1999-00	64,759		1,012,531.20	121,024		1,203,300.49	185,783	2,215,831.79
2000-01	62,222		954,443.24	123,747		1,258,690.52	185,969	2,213,133.76

Note:
1. Revenue figures are net (less vendor's commission).
2. Manitoba Fisheries Enhancement Stamp initiated in 1993-94.
3. Resident of Manitoba Senior's Conservation Licences were introduced in 1997-98.
4. Starting with the 1999-2000 season – angling licences will be valid from May 1 – April 30. Licence sale statistics for the 2001-02 Annual Report will be based the most recent complete season i.e. the 2000-01 season.

Table FI.7
Fishermen Employed in Commercial Fishery 2000-01

	Northern Lakes	Lake Winnipeg	Lake Manitoba	Lake Wpgosis.	Other Lakes	Overall
Summer						
Licence Holders	500	848	73	41	27	1429
Hired Men or Helpers	152	169	50	68	37	469
TOTAL	652	1017	123	109	64	1898
Winter						
Licence Holders	166	157	481	171	230	1179
Hired Men or Helpers	114	29	349	134	115	739
TOTAL	280	186	830	305	345	1918
Annual						
Licence Holders	525	883	491	175	237	2228
Hired Men or Helpers	169	176	357	168	138	996
TOTAL	694	1059	848	343	375	3224

Note: Those who fish in more than one area or season, or who fish both as hired men and licence holders, are counted only once in the appropriate Total column. Where hired-man-and-licence-holder duplication occurs, the individual is counted as a licence holder. Therefore, the table does not total horizontally or vertically.

Table FI.8

Commercial Fishing Production (round kg), Total Value, and Employment (Licensed Fishermen plus Hired Men) 1991-92 to 2000-01

	Northern Lakes		Lake Winnipeg		Lake Manitoba		
Year	Weight (kg)	$ Value	Weight (kg)	$ Value	Weight (kg)	$ Value	
1991-92	3,181,650	4,473,000	5,857,600	2,092,450	3,023,550	4,920,800	
1992-93	2,625,750	4,097,600	4,644,650	11,291,300	1,099,950	2,988,500	
1993-94	1,867,550	2,369,100	4,217,700	7,954,350	710,350	1,580,400	
1994-95	2,572,500	3,887,600	4,655,500	11,174,800	821,000	2,747,250	
1995-96	3,081,050	5,033,450	4,836,400	12,177,900	2,027,500	3,462,250	
1996-97	3,339,650	4,290,500	4,312,600	8,864,050	1,344,450	1,840,450	
1997-98	2,621,550	3,565,750	3,991,600	8,340,050	1,518,000	2,207,800	
1998-99	2,761,800	4,350,500	4,825,600	14,119,350	1,734,450	2,284,800	
1999-00	3,235,650	5,087,500	5,419,050	16,983,500	1,943,950	2,416,950	
2000-01	3,318,650	5,608,800	6,217,850	20,386,750	2,342,400	2,847,050	

	Lake Winnipegosis		Other Lakes		Manitoba Total		
Year	Weight (kg)	$ Value	Weight (kg)	$ Value	Weight (kg)	$ Value	Total Employment
1991-92	2,287,950	1,718,700	1,275,250	1,568,000	15,626,000	24,772,950	3,490
1992-93	879,700	696,400	813,750	1,405,600	10,063,800	20,479,400	3,354
1993-94	1,074,350	477,000	1,034,150	1,586,050	8,904,100	13,966,900	3,173
1994-95	775,350	436,400	989,000	1,911,550	9,813,350	20,157,600	3,125
1995-96	1,385,000	659,750	1,195,300	1,555,900	12,525,250	22,889,250	3,345
1996-97	1,635,650	682,500	1,190,800	1,089,350	11,823,150	16,766,850	3,325
1997-98	1,465,050	842,800	915,700	725,050	10,511,900	15,681,450	3,237
1998-99	2,106,550	1,892,650	775,000	1,273,000	12,203,400	23,920,300	2,990
1999-00	2,719,850	2,266,250	778,550	951,850	14,097,050	27,706,050	3,216
2000-01	2,753,550	2,004,200	892,250	1,131,450	15,524,700	31,978,250	3,224

NOTE: *Total value includes both Initial Value and Final Payment.*

Table FI.9

Commercial Fishing Production (round kg) by Area and Total Value by Species 2000-01

Species	Northern Lakes		Lake Winnipeg		Lake Manitoba		Lake Winnipegosis	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
Bass			23,750	4,900				
Carp		50	127,400	49,100	132,300	61,900	26,900	42,550
Catfish			50					
Goldeye	2,800	200	3,300	2,800			Trace[2]	50
Maria	41,200		6,550	150		50	50	
Mullet	501,850	104,850	215,250	25,550	704,450	823,850	868,950	1,187,200
Perch	1,550	250	52,900	9,400		85,800	100	3,850
Pickerel	707,500	58,800	3,448,850	276,750		416,400	170,600	43,950
Pike	698,450	199,400	131,350	10,000		81,000	30,950	295,150
Sauger	12,250	650	488,050	54,050		27,350	Trace[2]	250
Trout	26,000	50						
Tullibee	107,500	13,900	300	Trace[2]			Trace[2]	Trace[2]
Whitefish	755,500	85,900	862,950	424,450		9,300	23,650	59,350
Total	2,854,600	464,050	5,360,700	857,150	836,750	1,505,650	1,121,200	1,632,350

Species	Other Lakes[1]		Total Production			Total Value $[3]		
	Summer	Winter	Summer	Winter	Total	Summer	Winter	Total
Bass			23,750	4,900	28,650	17,100	4,100	21,200
Carp	20,600	26,400	307,200	180,000	487,200	95,050	59,400	154,450
Catfish			50		50	50		50
Goldeye		150	6,100	3,200	9,300	15,250	8,450	23,700
Maria			47,800	200	48,000	16,650	100	16,750
Mullet	52,750	235,150	2,343,250	2,376,600	4,719,850	692,350	688,950	1,381,300
Perch		7,350	54,550	106,650	161,200	303,700	587,250	890,950
Pickerel	1,000	146,750	4,327,950	942,650	5,270,600	18,443,600	3,746,650	22,190,250
Pike	5,750	276,450	866,500	862,000	1,728,500	701,900	722,300	1,424,200
Sauger		100	500,300	82,400	582,700	1,733,850	285,900	2,019,750
Trout			26,000	50	26,050	21,950	50	22,000
Tullibee		6,550	107,800	20,450	128,250	76,550	15,200	91,750
Whitefish	49,300	63,950	1,691,400	642,950	2,334,350	2,487,550	1,254,350	3,741,900
Total	129,400	762,850	10,302,650	5,222,050	15,524,700	24,605,550	7,372,700	31,978,250

[1] Includes Archies, Buffalo , Chitek , Crab, Cross Bay, Dauphin, Douglas, Inland, Pelican, Proulx, Red Deer, Sisib-Pickerel, St. Martin, Swan, Waterhen, William.

[2] Small amount.

[3] Total $ value includes both initial value and final payment.

NOTE: Commercial fishing statistics for 2001-2002 fiscal year were not available in time to be included in this report. They will appear in the annual report for the next fiscal year.

Northern Fishermen's Freight Assistance

The Northern Fishermen's Freight Assistance (NFFA) program assists marginal commercial operations by partial subsidization of transporting certain species to Winnipeg. Fishers pay the first 20¢/kg of freight, the Province pays the next 45¢/kg, and fishers pay any costs over 65¢/kg. Eligible species are whitefish, pike, lake trout, perch, goldeye, tullibee and sucker. Subsidy payments to fishers are issued weekly by Freshwater Fish Marketing Corporation (FFMC) on behalf of Manitoba. Fisheries allowed to opt out of FFMC are paid by the Branch at season end.

To ensure expenditure does not exceed the $410,000 cap set in 2000, fishers receive an initial payment, usually 70% of their estimated eligibility. They receive final payment at fishing-year end. While a full 30% final payment may not be possible when production is high, a final payment higher than 30% may occur in low-production years. NFFA paid about $188,000 to 394 fishers for 2001 summer season. Payments to about 100 fishers for winter season will likely be about $45,000.

Table FI.10

12.4(f)5 Northern Fishermen's Freight Assistance

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	410.0		410.0		

Fisheries Enhancement Initiative

The Initiative funds projects that protect or improve fish stocks or habitat. 24 diverse projects were approved.

The FEI previously funded at least 5 watershed inventories. This year three were funded: Valley River, Goudney Reservoir, and a collection of creeks in the southwest (Boshill, Stony, Nisco and Gopher). There were also two site-specific projects that received high priority in previous inventories:

- Brookdale Drain (Neepawa) involved fencing, controlled cattle crossings, and offshore waterers to stabilize streambanks and reduce nutrient loading.
- Inglis Beach Dam Feasibility (Shell River), to assess fish passage options around Inglis Beach Dam.

Other enhancement projects included a fishway on Plum Creek, riffle development plans for upper Sturgeon Creek, and aeration units for Arrow, Patterson, and West Goose Lakes. Two projects, at Birds Hill and in Duck Mountain area, created or enhanced lake habitats to support trout fisheries. There were also a number of education/awareness projects:

- a sturgeon awareness initiative in northern communities,
- a kid's fishing booklet was produced,
- a brochure highlighting Manitoba's fish species of concern, their biology and habitat, was produced,
- a water-quality sampling kit was purchased to involve high school students in sampling waterways,
- Minnedosa Lake Rehabilitation Committee hosted a workshop on use of the "waterjet stinger", an erosion control tool,
- an aquatic field station at Fort Whyte was constructed, and
- Manitoba Wildlife Federation was funded to establish and promote the Manitoba Recreational Fishing League. This is a team-based fishing event aimed at kids aged 9-15. Teams are encouraged to fish a couple of times per week and record their best catch of the week.

Table FI.11

12.4(f)6 Fisheries Enhancement Initiative

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	 $	Variance Over/(Under)	Expl. No.
Other Expenditures					
- Grants/Transfer Payments	349.0		350.0	(1.0)	
Total Other Expenditures	349.8		350.0	(0.2)	

Chapter 10

Wildlife

The Branch manages wildlife resources to conserve species and ecosystems, based on preserving biological diversity and principles of sustainable development. The Branch protects and enhances habitat on Crown and private lands. Resources are allocated to maximize long-term social, economic, and environmental benefits. The Branch co-operates with a wide range of clients and groups to promote commitment to conservation and to realize optimum benefits from interaction with wildlife. The Branch represents wildlife interests in departmental, provincial, national, and international initiatives for migratory wildlife, game and fur species, problem wildlife, protected spaces, conservation, sustainable development, biodiversity, federal-provincial harmonization, and species at risk. The Branch ensures that wildlife programs reflect the cultural, subsistence, social, and economic values of Manitobans, consistent with policy and procedure and legislation.

Administration

The Section provides legislation, policy, and procedure to direct and co-ordinate programs and ensures effective performance. The Section co-ordinates spending estimates, ensuring expenditures are within budget, and provides payroll, financial, and operational support, and administration of wildlife permits required under federal and provincial statutes.

Towards year-end, the Branch was renamed Wildlife and Ecosystem and Protection Branch. Terrestrial Quality Management Section was integrated into Habitat and Land Management Section, creating Habitat Management and Ecosystem Monitoring section. A new Director was confirmed, Senior Scientist position was created and staffed, Marketing and Communications position created and staffed, and two positions from Aboriginal Employment Initiative were approved. These positions--GIS technician and Botanist--will be recruited with Aboriginal incumbents and located in Habitat Management and Ecosystem Monitoring Section and Biodiversity Conservation Section, respectively. Wildlife Aboriginal Liaison Manager continues to be seconded to Aboriginal Relations Branch.

A halftime Legislative Assistant position began in Legislation and Permits Unit, part of succession planning, to ensure minimal disruption of service when senior staff retire.

Grants were made to: Churchill Northern Studies Centre (research on wildlife and resource management); Manitoba Trappers Association (trapper education and involvement in fur management); Fur Institute of Canada (humane trap development and public information); Manitoba Habitat Heritage Corporation (North American Waterfowl Management Plan and Critical Wildlife Habitat Program), and Oak Hammock Marsh Interpretative Centre.

The Director represents provincial interests on various local, national and international wildlife initiatives: board member of Wildlife Habitat Canada, International Association of Fish and Wildlife Agencies, Western Wildlife Directors, Canadian Wildlife Directors, Arctic Goose Joint Venture, Circumpolar Polar Bear Management Committee, Canadian Co-operative Health Centre, Canadian Biodiversity Committee, Mississippi Flyway Council, Manitoba Habitat Heritage Corporation, and Prairie Habitat Joint Venture.

Wildlife Branch Website

The Website, at http://www.gov.mb.ca/natres/wildlife/index.html, continues to be expanded and enhanced. It provides an overview of who we are, what we do, and how to reach us.

General Extension

In addition to extension associated with each project, program displays were staffed at Delta Marsh Birding Festival, Manitoba Grazing School, Association of Manitoba Municipalities Annual Convention, Manitoba Conservation Districts Annual Meeting, Canadian Waterfowl Festival, and Royal Manitoba Winter Fair. Presentations and field tours were given to groups.

National Wildlife Week

National Wildlife Week (April) was co-ordinated with Canadian Wildlife Federation with the theme, *My Community Includes Wildlife, Does Yours*? This reflected a change to more community-based, as well as school-based, conservation and education themes.

Staff participated in Manitoba Working Group, comprising conservation groups and wildlife agencies. Poster kits (purchased from CWF) were distributed to schools, libraries, municipalities, the Department, and Conservation Districts.

Legislation

Amendments to ***The Wildlife Act***, to confirm ministerial authority to regulate hunting of wildlife in captivity, were proclaimed: *Captive Hunting of Wildlife Regulation* came into effect, prohibiting hunting of captive native and exotic wildlife. Amendment to the *Exotic Animals Regulation*, designating all non-native members of the deer family as exotic wildlife, came into effect to supplement the prohibition.

Six other Ministerial Regulations under ***The Wildlife Act*** were amended. Four Regulations were amended to change hunting and trapping seasons. Amendments to *Use of Guides for Hunting Regulation* affected eligibility standards for a *Guide License*, clarifying license suspensions and shortening the name to *Hunting Guides Regulation*. Amendments to *Use of Wildlife Lands Regulation* prohibited development in all or part of 12 Wildlife Management Areas, so that they could be Protected Areas.

Two Order-in-Council regulations under ***The Wildlife Act*** were completed. This included a new *Designation of Wildlife Lands Regulation*, consolidating five Order-in-Council Regulations designating areas under ***The Wildlife Act***, and *Designation of Trapping Areas Regulation,* which was rewritten to reflect contemporary management requirements.

One Order-in-Council regulation under ***The Endangered Species Act*** was approved. This regulation, amending the *Threatened, Endangered and Extirpated Species Regulation*, declared one mammal, Mule Deer, one amphibian, Great Plains Toad, one butterfly, Ottoe Skipper, and two plants, Culver's root and Riddell's Goldenrod, as *Threatened*.

Consultation with Canada on the proposed ***Species at Risk Act*** continued.

Wildlife Permits

The Branch administers *Permits* and *Licences* under ***The Wildlife Act*** and ***The Endangered Species Act***. Subject to federal guidelines, CITES (Convention on International Trade in Endangered Species of Wild Flora and Fauna) *Export Permits* required under the ***Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*** are also issued. Revision to reflect computer system conversion was completed.

Review of the *Disabled Hunter Permit* program was completed. Changes included more definitive eligibility standards, and limitation on distance a *Permit* holder can be from a vehicle or a Designated Route. *Permits* for temporary disabilities were discontinued.

Table WI.1
Wildlife Permits Issued, 2001

Provincial Permits	
Dead Wild Animal Possession Permit (educational)	14
Dead Wild Animal Possession Permit (personal)	114
Applications Denied (Dead Wild Animal)	72
Disabled Hunter Permit (discharge firearm)	15
Disabled Hunter Permit (permanent)	105
Disabled Hunter Permit (temporary)	3
Applications Denied (Disabled Hunter)	54
Dog Trainer's License (non-resident)	3
Dog Training Club License	2
Exotic Animal Import Permit	0
Field Trial Permit	1
Live Exotic Animal Possession Permit	1
Live Wild Animal Possession Permit	13
Power Boat in Marsh Permit	2
Serve Meat of Wild Animal Permit	3
Species At Risk Permit	7
Use Vehicle Off Designated Route Permit	1
Wild Animal Capture Permit	8
Wild Animal Export Permit	598
Wild Animal Import Permit	25
Wild Animal Kill Permit	0
Wild Animal Part Dealer Permit	22
Wildlife Scientific Permit	16
Total (Provincial Permits):	**1078**
Federal Permits:	
CITES Export Permit	1097
Total (Federal Permits):	**1097**

Table WI.2
12.4(g)1 Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	389.0	9.50	394.2	(5.2)	
Other Expenditures	480.7		488.9	(8.2)	
- Grants/Transfer Payments	207.0		207.0	0.0	
Total Other Expenditures	687.7		696.9	8.2	

Game and Fur Management

Hunting Opportunities

Manitoba Conservation is committed to maintaining and, where possible, increasing hunting opportunities. Simplifying hunting regulations and providing new opportunities for young hunters are also important goals. Season opening dates and lengths have been standardized, and earlier publication of the *Hunting Guide* (April) improved service to the public and allows hunters more time to plan.

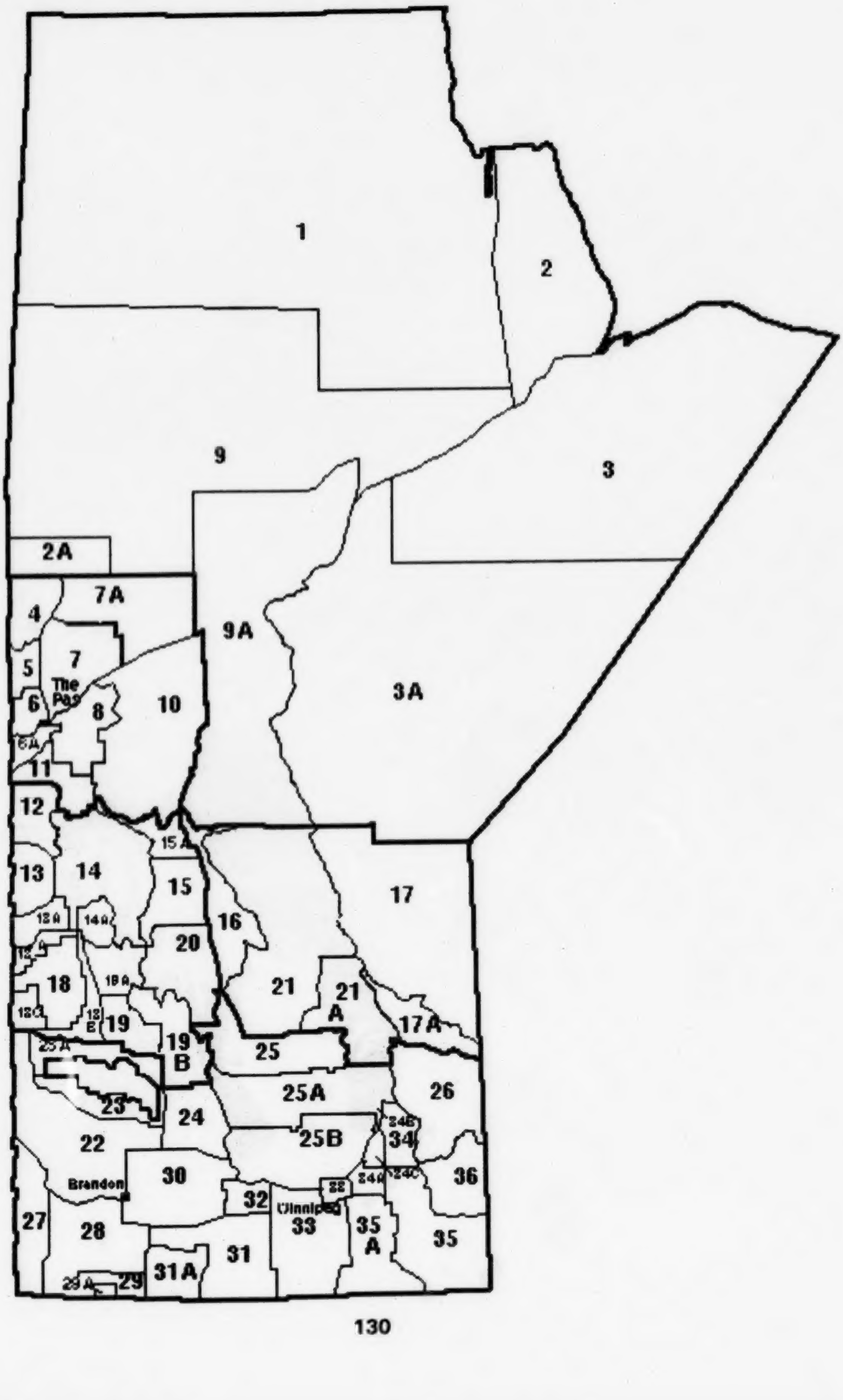
Province-wide Sunday hunting for upland gamebirds and waterfowl was introduced; rifle deer season was increased from two to three weeks in Deer Zones D and E; turkey hunting opportunities were expanded; and a simplified waterfowl season structure for residents was introduced, including earlier opening and extending resident goose hunting to all day. New and expanded elk hunting opportunities were introduced in Tiger Hills and the Interlake.

Youth-mentoring programs, such as Waterfowler Heritage Days, were expanded with support of many groups and individuals, including Manitoba Wildlife Federation, Delta Waterfowl Foundation, Manitoba Lodges and Outfitters Association, and Netley Marsh Waterfowl Foundation. The *Youth Hunting Licence Package* is increasingly popular; about 3,400 packages were purchased, allowing qualifying youth to hunt deer and upland gamebirds at reduced cost, accompanied by a licensed adult mentor. The Department intends to expand these programs to provide quality education and practical experience to youth interested in hunting.

Waterfowl Management

Management of waterfowl resources continued through co-operative efforts involving non-government wildlife organizations, municipalities, conservation groups, provincial and federal government departments and, interested individuals. Programs were directed at disease outbreaks, habitat improvement, conservation easements, population monitoring, determination of harvest, research, and youth hunter education. Manitoba also continued to influence local waterfowl management and programs in other jurisdictions through input into national and international committees such as Mississippi Flyway Council. Concerns about declining waterfowl hunter numbers and increasing urban goose populations received additional effort.

Figure 6.
Game Hunting Areas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Upland Game Bird Management

Spring grouse surveys indicate most upland game bird populations remained relatively stable in recent years. Weather during nesting and rearing periods was favourable, with generally mild winter and early spring followed by warm summer. Precipitation was variable and forage production was very good in most areas.

Loss of upland habitat to encroaching woody species significantly affects grouse populations in many parts of the south. Experiments on controlling popular regeneration continued in Interlake Region. Annual spring grouse surveys were conducted as part of long-term population monitoring.

Wild turkey populations continue to prosper, largely due to shelter and food from expanding livestock operations. The Department worked closely with Wild Gobblers Unlimited and individuals to remove problem turkeys from urban areas and rural communities. *Hunting Licence* sales continued to increase.

White-tailed Deer

Normal winter conditions occurred through most of Manitoba and average winter mortality was experienced. Densities are moderate to high across much of the south. Eastern Region herd continued to recover from high winter mortality in 1995-96 and 1996-97, benefiting from four mild winters in a row, and buck-only bag limit. The buck-only season in southeast was cancelled, reverting to an any-deer limit. High numbers inside Perimeter Highway and in Red River Valley, where hunting is limited or prohibited, continue to substantially damage speciality crops and landscape plantings. Consequently, a *Second Deer License* was available south and northeast of Winnipeg.

Rifle season *License* sales to residents were 32,283 (31,100 in 2000-01). Resident bowhunting *License* sales continued as previously at 3,073 (2,927 in 2000-01). Resident muzzleloader *License* sales increased to 7,801 (6,990 in 2000-01). Second deer *License* sales to residents were 564.

Non-resident/non-Canadian *License* sales increased for muzzleloader, to 174, and archery, to 315. Sales decreased slightly for non-resident/non-Canadian rifle, to 1,138.

Black Bear

Populations are stable or growing, indicating that current hunting intensity (3,248 hunters) is sustainable. About 1,264 residents hunted bear, similar to 2000-01 (1,251), but considerably below the long-term average. Non-resident harvest is managed by *Licence* quota allocations to outfitters. Non-resident hunter numbers were down slightly to 1,959. Quality experiences, a 75 percent success rate, and a reputation for big bears with a range of colour phases, attract non-residents.

Direct measurement of populations is difficult. Consequently, indirect methods are used to detect changes in densities, such as field observations by staff, hunters and outfitters, hunter success rates, and sex ratio and age distribution of harvest. A computer model, using hunter harvest data and biological samples from hunters and outfitters, was used to evaluate harvest levels to ensure sustainability. Female reproductive tracts show number of fetal attachment(s), and premolar teeth provide age, together indicating age at onset, and frequency, of lactation.

Concern about orphaned cubs prompted a complete assessment of spring hunting. A mathematical model was developed to estimate number of cubs orphaned as a result of spring hunting season. Findings indicate there is a very low incidence of cub orphaning due to hunting.

Moose

Populations and calf crops continue to be good-to-excellent in Turtle Mountain, Duck Mountain, Riding Mountain, parts of Central Region, north of the Whiteshell, and much of the north. Densities in GHA 21 continue to respond to habitat rejuvenation following the large 1989 fire and remain at high levels. In north Interlake, Northwest Region, Spruce Woods-Shilo and parts of southeast, numbers remain below optimum levels despite excellent habitat and limited or no licensed hunting. Discussion of long-term harvest strategies with First Nations continued.

5,391 resident and 138 non-resident *Licenses* were sold, similar to 2000-01 (5,522 resident and 147 non-resident).

Elk

Province-wide, numbers decreased slightly. Duck Mountain and Porcupine Hills herds remain below target because of increased hunting that slowed recovery from the elk capture program in late 1990's. Population reduction, particularly in Swan River Valley area, was required to address concerns about excessive damage to farm produce. It is anticipated that slight reduction in hunting pressure over the next two-three years will allow Duck Mountain population to meet goals. Spruce Woods population increased to about 650. South Interlake herd remains higher than its population goal of 1,000; increased hunter opportunity for this population was implemented. Riding Mountain area population is estimated at about 3,900 animals. Hunting seasons and license quotas were used to help address Bovine Tuberculosis (TB) concerns in Riding Mountain area. The current level of hunting will reduce elk density and help reduce disease transmission and prevalence.

4,054 elk *Licenses* were sold for rifle, archery, and landowner seasons. A Management Strategy is being developed for each herd. Interlake Elk Management Strategy has been completed.

Caribou

Populations of barren-ground caribou are stable or increasing, while coastal herds (Cape Churchill and Penn Island ranges) are stable. 624 resident and 148 non-resident *Licenses* sold. The non-resident season in GHA 1 benefits communities and lodges in the north, where employment opportunities are limited. Guiding, outfitting, and accommodations are primary income-generating services with spin-offs to other sectors.

Disease in Wildlife

There is evidence of low-level presence of tuberculosis in Riding Mountain area, detected in cattle and elk. This has implications for agriculture, wildlife management, and human health. All involved agencies are co-operating to addressing the situation.

Monitoring tuberculosis in wild ungulates in this area completed a fourth year. 10 elk have tested positive for tuberculosis, as has a white-tailed deer harvested in Rossburn area. Over 1,600 elk and deer samples have been examined. Tuberculosis was brought to North America by infected cattle; infections in elk and deer were acquired from cattle. The Department, Manitoba Agriculture and Food, Canadian Food Inspection Agency, and Parks Canada, the main program partners, implemented the first year of a five-year *Action Plan for Bovine TB Management in Manitoba* which provides expanded surveillance, scientific studies to understand disease dynamics, and containment.

Chronic Wasting Disease (CWD) is a fatal neurological disease affecting the deer family (cervids), including elk, white-tailed deer and mule deer. This disease was found in captive deer and elk in Saskatchewan, Alberta and seven States, and in wild deer and elk in Saskatchewan and five States. An enhanced CWD surveillance program was initiated. 350 hunter-harvested white-tailed samples from the southwest, and 200 elk samples from Riding Mountain area were tested. Containment efforts in Saskatchewan and Alberta were monitored as infection in wild populations could spread to Manitoba.

Non-resident Hunting Licence Allocation Program

Non-resident deer, moose, bear, caribou, and game bird hunters spent over $1.5 million for *Licences* and generated over $10 million in economic activity. Allocation of non-resident big game *Licences* through lodges and outfitters allows harvest modulation to ensure sustainability while meeting residents' needs. The program is regularly reviewed and adjusted to ensure that objectives are met. The procedure for allocating non-resident hunting *Licences* was changed to provide First Nations applicants additional opportunity to enter the industry. Development of policies and procedures for allocating non-resident caribou *Licences* was completed, and will result in sustainable use of barren-ground caribou, and ensure that communities on the fall caribou range receive a proportionate share of benefits. The Manitoba Lodges and Outfitters Association, Manitoba Wildlife Federation, and individual outfitters were consulted to identify and address concerns. Major goals of the non-resident hunting program are to foster stewardship of wildlife resources and improve the business environment.

Big Game Monitoring

Understanding population dynamics is essential to management. Population changes are detected by comparing data collected in a similar manner over time. Most commonly used methods are:

- Winter aerial inventories to estimate abundance, sex and age composition, recruitment and distribution;
- Mail questionnaires to estimate harvest levels; and
- Biological specimen collection to assess age and reproductive status.

Aerial Surveys

This program depends on financial resources from Wildlife Enhancement Initiative, from revenues paid by hunters. In some years, poor snow conditions (less than 20 cm. on the ground) prevent some surveys being flown, but snow was sufficient in all areas this year. Surveys were:

- GHA 2A, moose. The GHA (3,801 km²) was stratified on basis of 18 km² sample units. Total counts were made of 45 units, 21% of the GHA area. A first-ever point estimate of 297 (± 34%) was derived, or .08 moose/km².
- GHA 4, moose. The GHA (2,503 km²) was stratified on basis of 18 km² sample units. Total counts were made of 36 units, 26% of the GHA area. The population estimate was 184 (± 26%), or .07 moose/km², 39% below last survey (1995-96).
- GHA 14 & 14A, moose. Both GHAs (5512 km²) were stratified on basis of 20 km² sample units. Total counts were made of 71 units, 24% of the GHA area. This population is estimated to be 494 (± 31%), or .09 moose/km², 80% less than last survey (1992-93).
- GHA 21A, moose. The GHA (2,265 km²) was stratified using fixed-wing aircraft on basis of 20 km² sample units. 35 units (30% of the area) were searched intensively by helicopter. The population estimate was 555 (± 24%), or 0.24 moose/km², a 27% increase from last survey (1993-94).
- Hecla Island, moose. 160 km² was systematically searched, counting 28 moose (0.175 animals/km²), same as 2001 survey, but 53% below recent high of 59 (1996) and 82% less than all-time high of 152 (1986). Parks and Natural Areas Branch financed this survey.

Hunter Questionnaires, Big Game Seasons

Responses from 2000-01 *Questionnaire* were received and analyzed. 5,700 questionnaires were mailed to all resident hunters in draw *Licence* seasons, and 22,000 questionnaires were sent to a sample of residents in non-draw seasons. About 13,300 were returned, from which resident harvest was estimated, below.

Table WI.3
Resident Hunter Big Game Harvest

Season	Licences Sold	Estimated Harvest
Deer rifle	31,185	23,050
Deer archery	2,926	1,173
Deer muzzleloading	7,005	4,491
Deer (antlerless) second	776	344
Moose rifle	3,472	755
Moose (conservation)	136	29
Moose (draw)	1,616	357
Moose archery	199	22
Moose (draw) archery	100	27
Elk (draw)	2,983	1029
Elk (draw) archery	1,034	118
Elk (draw) landowner	676	268
Black Bear	1,251	422

Questionnaires mailed in 2001-02 are being received, entered and analyzed, for 2002-03 reporting.

Biological Specimen Collection

The Section collects biological samples from hunters, who provide teeth and reproductive tracts from black bear. Crests are offered in appreciation for submission of teeth, and belt buckles for female reproductive tracts. These rewards contribute to a submission rate of 60% of (estimated) bear harvest. Analyses of 2000 specimens:

- 314 female and 828 male pre-molars were aged: average age for females was 6.47 years (oldest aged was 31.6 years in 1999) and for males, 5.16 years (oldest aged was 29.5 years in 1996).
- 220 reproductive tracts were examined, identifying 2.67 cubs as average litter for mature females (6+ years) and 2.2 cubs for 2-5 year-olds.

Problem and Captive Wildlife

This unit develops policies, legislation, and programs to address wildlife/human conflicts and use of wild animals taken alive.

The Problem Beaver Control Program was expanded by adding a Winter Beaver Subsidy Program to the existing summer program. These Programs offered a subsidy of $15 per beaver taken from designated Municipalities and Registered Trapline Districts. The winter subsidy is to encourage harvest during trapping season when the pelts have market value. $191,100 was spent to remove 12,740 beavers ($67,800 to remove 4,524 beavers in summer; $123,200 to remove 8,216 beavers in winter). Most problems are in Municipalities around Duck Mountain and Riding Mountain National Park.

Wildlife Crop Damage Compensation Program, administered by Manitoba Crop Insurance Corporation (MCIC), reimburses producers for bear damage to beehives and produce, for deer, elk, and bear damage to crops and property, and for livestock loss or injuries from predators such as wolves. Compensation for big game damage will be below average due to mild winter conditions. About $293,000 was paid for deer, elk and bear damage to standing crops and stored hay. Compensation for waterfowl damage also decreased to $312,000, due to improved fall harvest conditions. Damage to leafcutter bee operations totalled $14,000 and damage to honey operations increased from $86,000 to $122,000.

This was fourth full year for the Predator/Livestock Damage Compensation Program. The number of predator claims increased from 633 to 760; compensation paid increased from $210,000 to $271,000.

Wolf problems were most significant in Western, Interlake and Eastern Regions. The coyote population increased, as did number of claims. Staff removed problem animals with mechanical devices, while a *Permit* to use pesticides is being acquired.

Under the Regulation permitting falconry, several individuals hold permits to possess raptors. Falconers may hunt game birds and waterfowl, having obtained a hunting licence.

At-large wild boar monitoring continued due to concerns for human safety, habitat destruction, and property and crop damage. Over 250 boars are estimated to be at large in four principal areas: R.M. of Brokenhead, Interlake, Assiniboine River Valley west of Brandon, and eastern Red River valley south of Winnipeg. As authorized by ***The Wildlife Act***, the Director declared all Manitoba a Wild Boar Control Area, which authorizes any resident, using a firearm, archery equipment or crossbow, to kill wild boar at large, anywhere (having right of access to the land), at any time of year. The new declaration replaced existing municipality-based Wild Boar Control Area declarations. The Department, with Manitoba Agriculture and Food and Kansas State University, initiated field study to determine feasibility of new control methods. The Branch continues to receive and assess reports of boar at large.

Over 125,000 Canada geese staged inside Perimeter Highway in fall. The Department received many calls from the public about property damage and health risk from goose droppings. Winnipeg Airport Authority is concerned about threat to air traffic. The Branch formed an Urban Goose Working Group that is investigating the problem and identifying goals and objectives for a management plan.

The Wildlife Amendment Act was proclaimed, under which Regulations prohibit penned hunting of wild animals (native and exotic), allowing game-farm operators two years to fulfil existing commitments and close their operations.

Furbearer Management

The program sustains populations of furbearers, promotes optimum harvests and economic, social, and cultural returns to trappers and their families. Furbearer production, the number of each species sold by trappers, is monitored. The program encourages humane trapping and promotes education and public understanding of furbearer management and the fur industry. Harvest and licence/permit information is based on the Fur Year, 1 September 2000 to 31 August 2001.

Furbearer Management Policy and Procedure Directives were approved after circulation to Manitoba Trappers Association (MTA), 64 Local Fur Councils, other trapper organizations, Resource Management Boards, Manitoba Keewatinowi Okimakanak, First Nations, and Manitoba Métis Federation, replacing *Fur Policy* (1988). These recognize and provide opportunity for trappers' input into decision-making and management. They ensure that local practices and traditional ecological knowledge will be important considerations.

Harvest levels increased spectacularly for pine marten, reaching 33,060 (15,602 last year). This species displaced beaver as primary furbearer, both in harvest and dollar-value. Marten populations have increased over the last two decades, owing largely to favourable habitat conditions.

Coyote, red fox (all varieties), and wolverine also showed very large increases. Significant harvest decreases were seen with ermine, mink, muskrat, and squirrel.

United States continued to be major market (80%) for Canadian pelts, with Japan and European Union countries taking the rest. Increased sales to China and Russia were being pursued by fur dealers.

A series of two-day workshops by Fur Institute of Canada's (FIC) Aboriginal Communications Committee, for community-based trapper education instructors, included two events in Manitoba: at Falcon Lake in Thompson. Instructors from western Provinces, Territories, and NW Ontario attended these events. They were taught how to facilitate their community presentations on *European Union-Canada Agreement on International Humane Trapping Standards (AIHTS)*. A video for trappers on

AIHTS was distributed to instructors in Cree, Dene, English, French, and Ojibway. The video, produced by Indian Cultural Education Productions of Winnipeg, was shot mostly in Manitoba through co-operation of the Department and Manitoba Trappers Association (MTA). It was broadcast nationally several times on Aboriginal Peoples Television Network.

Staff work with FIC's Trap Research and Development Committee on humane trapping devices and manufacturing standards. All approved devices are annually listed in ***Manitoba Trapping Guide***, along with the timetable for implementation of *AIHTS*.

Northwest Region, in co-operation with MTA and numerous communities, held a very successful Professional Trappers Workshop in Thompson. Over 60 trappers took part, representing their communities.

Mandatory Trapper Education Program exams were completed by 91 students. Workshops were held at Minnedosa, River Hills, Split Lake, Cross Lake, Thicket Portage, Tramping Lake and other northern communities. Several of these workshops were organized and conducted by MTA. Tramping Lake and Wallace Lake field stations were used by staff and for outdoor education and cultural purposes by students from Keewatin Community College Resource Management program, Sagkeeng First Nation, and Hollow Water First Nation.

126 free *Youth Trapping Licenses/Permits* were issued (first year). Graduates, aged 12-17, of the Trapper Education Program joined other jurisdictions in this no-fee program for young trappers. These contributed to the modest (4%) increase in licence/permit sales over last year.

A 17 year-old artist, Ken V. of St. Claude, created the winning design for a crest for graduates of the mandatory Trapper Education Program. The contest also created interest in, and educated, the 12-17 year-old group about furbearer resources. Sponsors were the Branch, North American Fur Auctions, and the MTA. The winner received prizes from the sponsors.

As part of Regulations review, plans of Open and Registered Trapping Areas continue to be consolidated into Director of Surveys registry, facilitating boundary identification for managers and trappers.

The ***Trapping Guide*** was made more informative by adding a chart showing humane trapping devices and applicable species. It was translated into Cree and Ojibway.

Little Saskatchewan Local Fur Council (LFC) was created in Erickson area. Along with last year's creation of Sherridon and the re-activation of Opaskwayak Cree Nation (The Pas) LFCs, three new areas have been formally organized as part of MTA in the past two years.

Table WI.4
12.4(g)2 Game and Fur Management

Expenditures by Sub-appropriation	Actual 2001-02	Estimate 2001-02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	604.0	11.29	631.5	(27.5)	
Other Expenditures	365.8		304.6	61.2	
- Grant Assistance	89.9		89.9	0.0	
Total Other Expenditures	455.7		394.5	61.2	

Table WI.5

Fur Statistics, Year ending 31 August 2001

Species	Quantity	Average Price $	Production Value $	% of Total Value	Royalty Per Pelt	Royalty $
Badger	122	43.64	5,324	0.2	0.50	61
Bear	912	164.72	150,225	5.4	1.00	912
Beaver	21,223	27.07	574,507	20.7	0.50	10,612
Bobcat	8	72.67	581	0.0	1.00	8
Coyote	3,780	20.56	77,717	2.8	1.00	3,780
Ermine	1,505	4.55	6,848	0.2	0.05	75
Fisher	1,466	31.01	45,660	1.6	1.00	1,466
Fox, Blue	2	20.00	40	0.0	0.50	1
Fox, Cross	275	20.23	5,563	0.2	0.50	138
Fox, Red	2,065	20.43	24,114	1.5	0.50	1,033
Fox, Silver	75	15.77	1,183	0.0	0.50	38
Fox, White	88	19.01	1,673	0.1	0.50	44
Lynx	454	72.67	31,992	1.2	1.00	454
Marten	33,040	43.66	1,442,526	52.1	1.00	33,040
Mink	3,505	14.38	50,402	1.8	0.50	1,753
Muskrat	27,099	3.10	84,007	3.0	0.05	1,355
Otter	2,049	91.98	188,467	6.8	0.75	1,537
Raccoon	1,444	17.06	24,635	0.9	0.50	722
Squirrel	2,660	1.39	3,697	0.1	0.05	133
Wolf, Timber	178	11.49	20,913	0.8	1.00	178
Wolverine	53	208.17	11,033	0.4	2.50	133
Total			$2,769,981			$57,470

Notes: 1. The Department's Fur Year runs from September 1 - August 31. Starting with the 1995-96 ***Annual Report***, statistics which relate to the Fur Year will be based the most recent complete Fur Year. The 2001-02 Annual Report will contain information on the 2000-2001 Fur Year Ending August 31, 2001.

Table WI.6

Trappers and Value of Wild Fur Production 1990-91 to 2000-01

Year	Open Area Trappers (#)	Registered Trapline Trappers (#)	Estimated Production Value ($)
1990-91	5,030	1,730	1,125,373
1991-92	5,495	2,018	1,681,582
1992-93	5,851	1,870	1,518,850
1993-94	5,546	1,818	2,694,978
1994-95	5,611	1,993	2,539,052
1995-96	6,336	1,865	2,639,452
1996-97	4,827	1,975	3,715,834
1997-98	5,315	2,049	3,306,968
1998-99	4,750	1,856	2,037,022
1999-00	4,276	1,669	1,967,404
2000-01	4,355	1,827	2,769,981

1. The Department's Fur Year runs from September 1 – August 31. Starting with 1995/96 ***Annual Report***, statistics which relate to the Fur Year were based on the most recent complete Fur Year. The 2001/02 Annual Report contains information on 2000/01 Fur Year, ending August 31, 2001.

Table WI.7
Hunting Licences Sold

Type of *Licence*	Fee $	Number Sold	Revenue $
Game Bird			
Resident of Manitoba	19.63	12,251	228,805.13
Non-resident (Canadian)	60.75	678	40,611.50
Non-resident (Non-Canadian)	116.82	4,679	542,011.04
Wild Turkey			
Resident of Manitoba	20.56	679	13,374.24
Moose			
Resident of Manitoba	44.86	5,268	233,180.48
Resident of Manitoba - Conservation	35.51	244	8,477.66
Non-resident (Canadian)	255.14	13	3,314.82
Non-resident (Non-Canadian)	304.67	125	37,958.75
Elk			
Resident of Manitoba	44.86	4,061	182,176.46
Caribou			
Resident of Manitoba	40.19	456	18,326.64
Resident of Manitoba - Second	93.46	168	15,701.28
Non-Resident (Non-Canadian)	304.67	123	37,351.41
Non-Resident (Non-Canadian) - Second	700.93	25	17,498.25
Black Bear			
Resident of Manitoba	25.23	1,264	30,773.72
Non-resident (Canadian)	80.37	18	1,439.66
Non-resident (Non-Canadian)	172.90	1,971	337,615.60
Deer			
Resident of Manitoba	30.84	44,092	1,316,923.28
Resident of Manitoba - Second	16.82	564	8,942.48
Non-resident (Canadian)	116.82	823	95,644.86
Non-resident (Non-Canadian)	172.90	1,662	284,838.30
Youth Hunting Licence Package			
Resident of Manitoba	9.35	3,369	28,219.15
Total *Licence* Sales			
Resident of Manitoba		72,416	2,084,900.52
Non-resident (Canadian)		1,532	141,010.84
Non-resident (Non-Canadian)		8,585	1,257,273.35
Total		82,533	3,483,184.71
Replacement	Variable	161	1,355.75
Grand Totals		82,694	3,484,540.46

Notes:

1. Revenue figures are net (less vendor's commission)
2. Non-Resident Caribou *Licences* are valid for both Canadian and Non-Canadian Hunters and are included with the Non-Resident (Non-Canadian) totals.
3. Second Caribou *Licences* introduced for Residents and Non-Residents in 1999.
4. Resident Conservation Moose *Licences* are issued as a 2 *Licence*/1 tag package (244 licences = 122 packages).
5. A *Youth Hunting Licence Package* for Residents of Manitoba introduced in 1999.

Table WI.8
Hunting Licence Sales and Revenue 1992-93 to 2001-02

Year	Game Bird		Big Game		Totals	
	# Sold	**Revenue $**	**# Sold**	**Revenue $**	**# Sold**	**Revenue $**
1992-93	27,034	791,592.00	60,229	1,830,776.50	87,263	2,622,368.50
1993-94	23,251	747,913.00	59,712	1,843,791.50	82,963	2,591,704.50
1994-95	23,331	793,088.50	62,485	2,009,832.00	85,816	2,802,920.50
1995-96	24,511	848,222.00	67,883	2,210,534.00	92,394	3,058,756.00
1996-97	24,789	890,609.50	71,955	2,208,504.00	96,744	3,099,113.50
1997-98	23,446	1,056,020.70	63,668	2,402,913.96	87,114	3,458,934.66
1998-99	23,816	1,112,930.77	59,743	2,423,557.18	83,559	3,536,487.95
1999-00	22,096	1,070,616.01	67,058	2,610,746.10	89,154	3,681,362.11
2000-01	19,742	950,233.84	62,830	2,640,246.04	82,572	3,590,479.88
2001-02	18,287	824,801.91	64,407	2,659,738.55	82,694	3,484,540.46

Note: 1. $5.00 per *Licence* for wildlife enhancement was introduced in 1997-98.
2. Second *Licences* for Resident and Non-Resident Caribou hunters introduced in 1999-00.
3. *Youth Hunting Licence Package* for Residents of Manitoba introduced in 1999-00.

Table WI.9
Wildlife Licence Revenue

Type of Licence	Revenue $
Hunting Licences	
Game Bird *Licences*	$811,427.67
Wild Turkey *Licences*	$13,374.24
Black Bear *Licences*	$369,828.98
Replacement *Licences*	$1,355.75
Caribou *Licences*	$88,877.58
Deer *Licences*	$1,706,348.92
Elk *Licences*	$182,176.46
Moose *Licences*	$282,931.71
Youth Hunting Licence Package	$28,219.15
Total – Hunting	$3,484,540.46
Commercial *Licences*	
Trapper *Licences* *	$34,818.00
Fur Dealer *Licences* *	$1,825.00
Tanner *Licences* *	$60.00
Taxidermist *Licences* *	$2,310.00
Shooting Preserve *Licences*	$330.00
Dog Trainer *Licences*	$305.00
Game Bird Farm *Licences*	$520.00
Amphibians and Reptiles *Licences*	$288.00
Total – Commercial	$40,456.00
Total Revenue	$3,524,996.46

* Reflects revenue for the 2000-01 Fur Year ending August 31,2001.

Habitat and Land Management

The Section develops policies, plans and programs to secure, protect and enhance wildlife habitat on Crown and private land, and is responsible for Wildlife Management Areas (WMAs), Public Shooting Grounds, Refuges and Special Conservation Areas. It leads the Branch's input to integrated resource management and environmental reviews, and sustainable development strategies. The Section directs and co-ordinates planning, delivery, monitoring, and evaluation of non-game bird programs, and co-ordinates the Manitoba Partners in Flight Program for conservation of land birds. It also administers ***The Conservation Agreements Act*** and links the Branch with Manitoba Habitat Heritage Corporation habitat enhancement programs.

Wildlife Sustainable Development Strategy

Analysis of *Wildlife Sustainable Development Strategy* public consultation responses was completed and the *Strategy* revised to integrate public comment.

Wildlife Management Area Program

Considerable progress was made in preparing a management plan for Cape Churchill WMA. Public consultations were completed, as were field investigations by staff of Geological Services of Manitoba Industry Trade and Mines, and Manitoba Highways and Transportation, to develop a strategy for demand/supply of sand and gravel. A draft *Management Plan* was prepared; the final document is expected early next year.

WMAs continued to play a major role in the Network of Protected Areas. Consultations with stakeholders led to protection of 14,396 ha. in 10 WMAs.

Habitat was enhanced in several Interlake WMAs. Standard boundary signs were produced for WMAs and Refuges.

Wildlife Management Areas Maintenance

Wildlife Enhancement Initiative funded maintaining and enhancing WMAs, including prairie enhancement in Narcisse WMA, forage plot development in Lundar and Little Birch WMAs, designated-trail signs, an interpretative sign for Whitewater Lake, and weed control.

Land Management and Use

The Section reviewed over 300 land-use proposals (a similar number to 2000-01) for wildlife habitat impacts. These included applications for *General Permits* and *Leases*, sales, and exchanges on Crown land, Treaty Land Entitlement and Grand Rapids forebay land selections, and municipal development plan and zoning by-laws and amendments. Policy proposals were reviewed to evaluate impacts on wildlife, habitat, land management, and use.

Environmental Impact Assessment

Over 80 *Environment Act* proposals or pre-clearances were reviewed, 50% less than last year. They included highway upgrades, water-treatment facilities, crop protection warehouses, waste-disposal grounds, bulk fertilizer facilities, golf courses, irrigation ponds, utility corridors, hog and cattle operations, and town water supplies. Annual operating plans for Louisiana Pacific Canada, Tolko Manitoba, Tembec/Pine Falls Paper and Mountain Quota Holders Association were reviewed.

Project WILD

Project WILD is an environmental education program emphasizing wildlife, sponsored by Canadian Wildlife Federation and implemented under agreement with each province's wildlife agency. Teachers are required to attend an in-service training workshop, usually conducted jointly by a wildlife specialist and a teacher trained as a workshop facilitator. Project WILD activities are identified for use in specific outcomes for the Grade Four Science curriculum.

About 60 educators were trained to use Project WILD materials in four sessions by staff and volunteers. Most attendees were students in university faculties of education.

Partners in Flight Manitoba

First draft of the *Partners in Flight Manitoba Strategic Plan* was completed. This included consultation with provincial biologists and bird enthusiasts. The Plan identifies bird species of high priority for conservation, and requirements of these species.

Two issues of *Partners in Flight Manitoba Newsletter* were produced, highlighting activities and bird conservation issues.

Manitoba worked jointly with partners from Saskatchewan and Alberta to develop two regional bird conservation plans; *Prairie Potholes Landbird Conservation Plan*, and *Prairie Potholes Waterbird Conservation Plan*. Both Plans are being led by Environment Canada and are in draft form.

Bird populations were monitored in relation to grazing management as part of the Twice-Over Rotational Grazing Demonstration Project, led by the Department. This was the Project's second year.

Areas of high priority for conservation of grassland birds were identified through a joint mapping project with Partners in Flight Manitoba and Environment Canada.

The Partners in Flight Manitoba steering committee met twice.

Heritage Marsh Program

The Program targets marshes known to be of extraordinary importance to the well-being of wildlife and humans. There are nine proclaimed Heritage Marshes (Saskeram, Summerberry, Delta, Oak Hammock, Rat River, Grants Lake, Proven Lake, Lidcliff and Dog Lake), and 17 candidate marshes.

Support continued for research on ecological health and future of Delta Marsh. Recognized locally and internationally as an important prairie wetland, this marsh is undergoing significant negative change, partly due to water level regulation on Lake Manitoba. Fisheries and vegetation studies are also supported by University of Manitoba, Ducks Unlimited Canada and Delta Waterfowl.

Capital improvements at Oak Hammock Marsh and Whitewater Lake Heritage Marshes included dyke improvements, and repair and construction of interpretative facilities. Support continued for research into causes and possible management of botulism outbreaks on Whitewater Lake.

Major funding support was provided to Western Boreal Forest Initiative, Pasquia Project Area, in northwest. This major project is by Ducks Unlimited Canada in partnership with the Department, Saskatchewan, SaskPower, Louisiana Pacific Canada, and Tembec. Key objectives are:

- accurate inventory of wetlands, riparian areas and uplands,
- land cover inventory and mapping,
- waterbird inventories,
- water chemistry and quality, and
- investigations into ecology, hydrology and disturbance of boreal wetlands.

The range of purple loosestrife continues to expand, threatening important marsh ecosystems. The Department partnered with City of Winnipeg and Ducks Unlimited Canada to support Manitoba Purple Loosestrife Project. Project objectives are control of purple loosestrife through research, management, and expansion of biological control programs. The Department chairs the Project.

Critical Wildlife Habitat Program

This cost-shared Program, involving also Manitoba Habitat Heritage Corporation (MHHC) and other agencies on a project-specific basis, identifies, preserves, and manages critical habitats, especially native grasslands, and habitats of unique/rare/endangered species. The Program supports stewardship initiatives, resource inventories, land management, including native prairie management, and extension. The Department and MHHC fund many of these programs while others are supported by other agencies. Critical Wildlife Habitat Program projects receive matching funds from the federal Habitat Stewardship Program for Species at Risk.

Tall Grass Prairie Preserve

Surveys continued to determine if there are unreported plant species here. A new species, whorled milkweed, was found. Monitoring continued to determine distribution of rare and endangered species, primarily rare orchids, insects, songbirds, and to develop management prescriptions.

A Master's student is studying two sphinx moths believed to be principal pollinators of the *endangered* western prairie fringed orchid. A severe hailstorm impacted the study site in 2001 and an additional study year will be required.

Management activities included mowing fencelines and maintenance at the interpretative site. Permanent vegetation plots and photo stations were monitored. These are sampled to determine overall health of the prairie ecosystem. Efforts continued to locate, sample, and map sites of leafy spurge and St. John's wort. Biological control sites were monitored. Control burns (an effective management tool for prairie ecosystems) were completed for several properties in South Block.

Two rotational grazing projects continued, including monitoring effect on small white lady's slippers and western prairie fringed orchids. Baseline data were collected.

The International Prairie Tour was held in conjunction with the annual Prairie Day. Portions of this tour were held in North Dakota and Minnesota. An education program for four school grades continued to be well-received and included field trips. Guided tours were offered through July and August.

Nature Conservancy of Canada purchased 800 more acres for the Preserve. The Conservancy was instrumental in establishing Conservation Agreements on an additional 160 acres of prairie land.

The Canada Habitat Stewardship Program for Species at Risk, Nature Conservancy of Canada, and the Manitoba Naturalists Society, supported monitoring and management activities.

Mixed Grass Prairie Projects

Inventory and grazing demonstration projects continued in mixed grass prairie region in southwest.

A comprehensive inventory concentrated on Carberry area south of Trans-Canada Highway. 237 landowners were contacted in R.M.s of North Cypress, South Cypress and Oakland. 151 quarter-sections (24,160 acres) in the study area were inventoried and quality of prairie was graded. On 82 ha. (201 acres or 3.8%) the prairie quality was B- or better, 994 ha. (2,457 acres or 46.6%) was C- to C+, while 1057 ha. (2,613 acres or 49.6%) were rated D-D+. Green Team staff worked on this project.

Parks and Natural Areas Branch was assisted to develop management plans for Spruce Woods Provincial Park.

Six grazing demonstration sites were monitored (vegetation changes and livestock weight-gains) to illustrate economic and wildlife benefits of rotational grazing. An additional season-long-grazing area was set up as a 'control' for the project. Bird monitoring was completed on all sites. Bird abundance and species diversity were slightly greater on rotationally grazed pastures compared with season-long pastures. A workshop was held for producers interested in implementing twice-over rotational system on their native lands. Assistance was provided to develop farm plans to implement the system. Project partners include Manitoba Habitat Heritage Corporation, Manitoba Agriculture and Food, Ducks Unlimited, Canadian Wildlife Service, Manitoba Cattle Producers Association, Environment Canada (EcoAction 2000), and two Conservation Districts.

Urban Habitat Stewardship Project

This co-operative effort involves many agencies and groups engaged in habitat preservation in Capital Region. A steering committee, comprising local, provincial and national conservation organizations and three levels of government, co-ordinates the project.

Capital Region Habitat Steering Committee is finalizing the *Naturescape* document, an educational package with information on native species and project ideas to help organizations and individuals transform small urban and rural areas, including backyards, into habitat.

Forest-Wildlife Guidelines

The first version of *Forest Management Guidelines for Wildlife in Manitoba* (1989) was a major step in enhancing communication and co-operation between Wildlife and Forestry Branches and the forest industry, and facilitated integration of forest and wildlife management activities.

The Branch initiated detailed review of *Guidelines* to incorporate current science and staff experience to produce. Concerns and issues raised by industry and staff, scientific literature, input from Regional Wildlife Managers, and information from other jurisdictions, contributed to the second version, now complete. Two *Guideline* documents have been produced: the shorter version comprises operational directives while the more detailed document is for planning. The intent is work with other Branches (Forestry, Fisheries) and, ultimately, industry to develop a single set of guidebooks for forestry activities.

Manitoba Forestry Wildlife Management Project

This project (initiated 1991) creates computer models to predict impacts of forestry practices on supply and quality of wildlife habitat. Partners included Wildlife Habitat Canada, Tolko Manitoba, Tembec/Pine Falls Paper Company, Louisiana Pacific, Manitoba Model Forest, and Canadian Forest Service.

Separate and shared habitat requirements of over 200 species in boreal forest zone were identified. Since several species have overlapping requirements, 19 *indicator* species were selected for computer modelling. For example, moose habitat encompasses requirements for 62 per cent of other wildlife species in the Zone.

Literature-based habitat supply models were developed for the 19 species. The partners agreed on a protocol by which models may be changed when necessary, as new field data becomes available. The habitat suitability index model for pileated woodpecker may be adjusted based on data for this species for Duck Mountain (1999). Models can be used to develop habitat suitability maps for Boreal Forest Zone. Resource managers can use these, along with other technologies, to guide long-term management plans for large forested areas.

Although this phase of the project was completed, continued work will ensure that models are compatible with the new forest resource inventory.

Hudson Bay Coastal Region Ecological Inventory Project

This project gathers wildlife and vegetation data in Hudson Plain and Southern Arctic Ecozones, for environmental assessment and monitoring by Manitoba and Canada. This will be essential to assessing impacts of developments, such as a hydro line to Nunavut or a northern road system, and to initiate mitigative measures. It may also prove useful in determining climate change impacts.

Third-year fieldwork inventoried small mammals and plants east of York Factory. Plants collected in 2001 were deposited in University of Manitoba's herbarium and the mammals were placed in Manitoba Museum's collection. Two reports were produced.

Another component of the project was to gather traditional ecological knowledge for the First Nation community of York Landing. A community co-ordinator was hired to work with community elders and 5 local high school students to document information provided by elders and transfer the knowledge to maps. The maps will be incorporated into a geographic information system. A consultant prepared detailed reports on traditional ecological knowledge for the two ecozones.

Partners in this project included Manitoba Museum of Man and Nature, Manitoba Hydro, Environment Canada, Churchill Northern Studies Centre and Parks Canada. Part of the study area falls in York Factory First Nation Resource Management Board's area, who participated in discussions on project details, and is willing to be a partner.

Table WI.10
12.4(g)3 Habitat and Land Management

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	628.1	12.00	682.4	(54.3)	
Other Expenditures	69.5		81.5	(12.0)	
- Grant Assistance	645.0		645.0	0.0	
Total Other Expenditures	714.5		727.5	(12.0)	

Biodiversity Conservation

The Section provides information and services to sustain natural biological diversity, including maintenance and growth of biodiversity information database. Activities include systematic and peer-reviewed assessment of conservation status of all wildlife, including plants. The database provides an efficient one-stop source of expertise and information. Establishing the database allowed Manitoba to join an international network of biodiversity centres known as NatureServe International, http://www.natureserve-canada.ca.

Endangered Species Advisory Committee

Staff prepare wildlife species status reports for Endangered Species Advisory Committee, established under ***The Endangered Species Act*** to advise the Minister on *species at risk*. Following recommendations from the Committee, five species were declared as *threatened* under the Act: one mammal (Mule Deer), one amphibian (Great Plains Toad), one butterfly (Ottoe Skipper), and two plants (Culver's-root and Riddell's Goldenrod). Declaring a species *threatened* assists protection, thereby enhancing survival. Limited distribution, low numbers, and dependence on specialized habitat are qualifying factors for *threatened* status. 14 draft status reports were prepared for priority species, including those assessed nationally by the Committee on the Status of Endangered Wildlife in Canada.

Federal-Provincial Initiatives under Accord for the Protection of Species at Risk in Canada

Participation on international and federal-provincial working groups and committees implements commitment to the *Accord* and the *Canadian Biodiversity Strategy*.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Manitoba is a voting member of this national committee that designates *species at risk*. Staff reviewed and assessed species status reports, enabling our contribution to national designation meetings. The proposed Canada *Species at Risk Act* (*SARA*) will legally establish COSEWIC. Manitoba contributed to restructuring COSEWIC and its procedures accordingly. The review process incorporated a new World Conservation Union-based classification system.

The Committee on the Recovery of Nationally Endangered Wildlife. This recovery program for species at risk was redesigned to better meet *Accord* requirements. Manitoba participates on the national recovery working group, which drafted *Towards a Renewed National Recovery Strategy: Re-defining the Processes, Responsibilities and Products*. Under *SARA*, three documents will initiate and guide action for each *endangered* or *threatened* species: Response *Statement, Recovery Strategy*, and *Recovery Action Plan*.

Report on the General Status of Wildlife in Canada. In 1998, Canadian Endangered Species Conservation Council requested that federal and provincial/territorial governments co-operate to assess and report on general status of wildlife (including plants) every five years, starting in 2000. A federal/provincial working group was established for this. The Branch reviewed and assessed general status of plants and animals. The next report (2005) will re-assess those in 2000 report, plus new species groups. National assessments of butterflies and freshwater fish were completed this year. Considerable resources are required, but results will apply to many conservation programs and ***The Endangered Species Act***.

Biodiversity Convention Office. Manitoba participates on a Federal-Provincial-Territorial Biodiversity Working Group that completed a report to Wildlife Ministers, *Working Together—Priorities for Collaborative Action to Implement the Canadian Biodiversity Strategy 2001-2006*. Implementation priorities include:

- Biodiversity science agenda, including bioinfomatics;
- Reporting on status and trends in biodiversity, including monitoring;
- Alien invasive species; and
- Eco-citizenship, including stewardship.

Information Management

The Section responded to hundreds of information requests, using the Biological Conservation Data (BCD) system. Requests came from federal and provincial governments, consultants, Nature Conservancy of Canada, universities, and others (organizations, media, industry, and individuals). Numerous requests were for environmental impact assessments.

BCD is partly available for live queries on Internet at http://web2.gov.mb.ca/conservation/cdc/. Although it is difficult to count queries made to the database, the Website received thousands of hits. An annual exchange occurs with NatureServe International BCD, including data from other centres in the Information network.

Table WI.11

Status, Biological Conservation Data System

Information Type	Plant	Animal	Community	Other[1]	Total
Number of Element Occurrences[2]	1,723	1,769	70	439	4,001
Elements Tracked Provincially[3]	2,801	1,201	174	8	4,184
Provincially Ranked Elements[4]	2,261	809	174	0	3,070
Contacts[5]					231
Source Abstracts[6]					1,868

1. Includes elements such as waterbird colonies, and snake and bat hibernacula.
2. A specific example of a plant, animal or vegetative community at a specific geographic location.
3. The Element Provincial Tracking database allows information to be gathered on plant, animal, community and other elements.
4. Provincial plant, animal or community element ranks to help priorise conservation efforts.
5. Knowledgeable individuals or organizations.
6. Information source about a plant, animal, community, or managed area (e.g., book, article, thesis, and photograph).

Botany/Ecology

Rare Plant Surveys

New fieldwork was completed for 22 species, with particular focus on seven plant species. Highlights included expanded occurrences of nationally-rare buffalo grass, *Buchloe dactyloides*, discovery of several new populations of roundleaf monkeyflower, *Mimulus glabratus*, and documentation of several range extensions for rare Manitoba species. In total, fieldwork resulted in updates of 61 previously mapped element occurrences, and 79 new element occurrences.

Species at Risk Fact Sheets

The *Fact Sheet* series continued in partnership with Environment Canada's Habitat Stewardship Program. Products included a folder to hold *Sheets*, an updated overview of *The Endangered Species Act*, and new *Sheets* for eight plant and animal species at risk: burrowing owl, Baird's sparrow, peregrine falcon, Great Plains ladies'-tresses, Great Plains toad, ferruginous hawk, western spiderwort, and western silvery aster.

Co-operative Initiatives

Co-operative efforts continued with neighbouring jurisdictions:

- Attended a meeting of International Western Prairie Fringed Orchid Working Group.
- Work continued on two eco-regional planning exercises with Nature Conservancy of Canada, the (US) Nature Conservancy, and neighbouring provinces and states.
- Manitoba and other provinces are co-operating with Parks Canada, Canadian Forest Service, NatureServe and others to develop a Canadian National Vegetation Classification, based on existing models used by NatureServe and its provincial partners.

Zoology

Owl Monitoring

- Great Gray Owl monitoring project entered its 18th year. Nesting density and reproductive success crashed due to low prey abundance.
- 91 volunteers completed 57 survey routes for the 2001 Manitoba Nocturnal Owl Survey. Results of the survey can be found at www.naturenorth.com/summer/creature/owl/owl new/owl2001.html. The owl survey was significantly expanded in 2002 with assistance from Manitoba Hydro, Delta Marsh Bird Observatory, and Partners in Flight Manitoba.
- A University of Manitoba graduate student completed a master's thesis on influence of forest fragmentation and slope on owl distribution in Riding and Duck Mountain areas.
- Seven public presentations based on owl monitoring programs were given in Winnipeg, Oak Hammock Marsh, Hadashville, and Roseau, Minnesota.

International Meeting of the Raptor Research Foundation

Three presentations were given by staff at Annual Scientific Conference of International Raptor Research Foundation, co-hosted by the Department (Winnipeg). This attracted 130 delegates from around the world.

Dragonfly Survey

The Volunteer-based Dragonfly Survey identified over 600 specimens (including six species new to Manitoba) since 1999. Over 200 volunteers participated to date. Survey data will contribute to dragonfly conservation status assessments. A presentation on the Survey was made at Living Prairie Museum (Winnipeg).

Narcisse WMA Snake Dens

Many Manitobans and non-residents visit red-sided garter snake hibernacula at Narcisse each spring. Staff interpreters explain the snakes' life history and significance of dens.

Numbers continue recovering from a large die-off in spring 1999. University of Oregon researchers continued studies on snakes; the WMA's population is estimated at 35,000.

Adjacent highway traffic killed large numbers of snakes. A committee, including area residents and Manitoba Transportation and Government Services, was established (1998) to reduce mortality. Manitoba Hydro installed several culverts in the last two years to permit snake passage under the highway. Monitoring snake use of these tunnels continued.

A workshop obtained public input on management, conservation and tourism development of snake dens in Narcisse–Inwood area. Priority issues, goals, and actions were identified by participants who included a wide range of interested citizens, local business owners, and university researchers.

Polar Bears

Provincial, national and international concern over the status and use of polar bears in captivity prompted review of protection of Manitoba bears. The Department is proposing that ***The Polar Bear Protection Act*** be enacted to strengthen legislation and policy.

To ensure conservation, Manitoba and Nunavut are developing an agreement to share responsibility for long-term management of Western Hudson Bay population.

Woodland Caribou

Review of *Woodland Caribou Conservation Strategy* was initiated for biannual update of the *Strategy* in 2002. The *Strategy* identifies four ranges at risk and priorises research and management initiatives.

Radio-collared caribou continued to be monitored in the north and a graduate student (Laurentian University) reported study results on caribou use in disturbed and undisturbed areas in the Kississing-Naosap range. Caribou were radio-collared in Wapisu Range by Nelson River Cree Nation and Manitoba Hydro to study population movement and habitat use.

An integrated woodland caribou/forest management plan, developed with Tembec/Pine Falls Paper, Manitoba Model Forest, and other partners, continues to be implemented in Owl-Flintstone Lakes range (east of Lake Winnipeg). Monitoring of radio-collared caribou was expanded in Atikaki–Berens range with capture and collaring of additional animals.

Chitek Lake Wood Bison Project

This population (currently about 125) continues to reproduce every year, and may be expanding its range. Discussions on a long-term management strategy continued with First Nation representatives.

Peregrine Falcon Recovery Project

Only one pair of peregrine falcons is known to have nested in the south. The pair on Radisson Hotel in downtown Winnipeg renested successfully after an early attempt failed. At the traditional Brandon site (McKenzie Seeds building), one adult was seen on and off through the summer, but no mate was seen and no nesting was documented. Monitoring by staff will continue, assisted by downtown Winnipeg volunteers, Peregrine Falcon Recovery Committee, Parkland Mews, and a summer student. Work began on producing a management plan for Peregrine Falcons in rural and urban areas. A captive breeding program was continued by Parkland Mews in partnership with the Department.

Colonial Waterbirds

Staff contributed to drafts of *National Colonial Waterbird Conservation Plan*, and participates on National Colonial Waterbird Working Group.

Piping Plovers

Surveys for associated with the International Piping Plover Survey yielded only four nesting sites and 16 nesting adults. This was much below the 60 adults recorded during the last International Census (1996). Habitat and productivity were reduced by high water on Lake Winnipeg, West Shoal Lake and throughout much of Interlake. A management plan and recovery strategy for Manitoba is being prepared, including analysis of historic sites and other suitable habitat. These analyses may indicate whether recent declines reflect a general decline, or relocation to alternate sites in high-water years.

Breeding Bird Survey

Staff co-ordinate involvement in North American Breeding Bird Survey (BBS). 45 BBS routes were surveyed, including five routes (Churchill, Grass River, Cranberry-Portage, McCreary and Gretna), where new observers found routes that weren't done for several years. BBS assesses changes in abundance and distribution of songbirds, especially species not monitored adequately by other surveys. BBS data are recognized as the best, and often the only reliable, long-term indicator of songbird trends. Local and national BBS data reveal that more species are increasing than are decreasing. The data also reveals that certain groups, such as grassland-nesting birds, have undergone significant declines since BBS surveys began (1966).

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- Support for threatened woodland caribou herds. Delineating habitat requirements for woodland caribou, using tracking by telemetry, and assessing these in light of economic development plans (such as forestry) is essential to survival.
- Maintenance for Wildlife Management Areas. Signs have been posted, forage plots developed, and necessary weed control undertaken.
- Enhanced public information on Branch Website. As the Internet becomes increasingly important to gathering and disseminating information wanted by the public, updating and enhancing our Website becomes increasingly important to wildlife management.
- Understanding biodiversity in Hudson's Bay coastal area. Management of wildlife resources in fragile arctic/sub-arctic ecosystems depends upon adequate understanding of species and their interrelationships. This project provides knowledge to facilitate landuse decisions through inventory of plant and small mammal species.
- Support to Canadian Co-operative Wildlife Health Centre that provides valuable information on wildlife diseases.
- Enhanced Chronic Wasting Disease surveillance was funded through this initiative. Collection and testing of 350 hunter harvested white-tailed deer from southwestern and 200 elk from Riding Mountain area was undertaken. Information about CWD was provided to hunters and the public.

Table WI.14

12.4(g)6 Wildlife Habitat Enhancement Initiative

Expenditures by Sub-appropriation	**Actual 2001/02**	**Estimate 2001/02**		**Variance Over/(Under)**	**Expl. No.**
	$	**FTE**	**$**		
Total Other Expenditures	271.3		225.0	(46.3)	

Chapter 13

Terrestrial Quality Management

The Section identifies, evaluates and manages risks to the environment and human health, using innovative, scientifically credible problem-solving methods by:

- Monitoring quality of the terrestrial environment (soils, vegetation, and wildlife);
- Providing scientific and technical support toward maintaining quality of ecosystems and restoring degraded environments to healthy condition; and,
- Collecting data to assist understanding of complex interactions of ecosystem components (soil, vegetation, wildlife, habitat) so that land use decision-making will be based on sound ecological principles and all potential environmental effects of developments are considered.

The Section maintains a network of monitoring sites and conducts issue-based environmental studies to define terrestrial ecosystem quality. The Section liaises with peers in the scientific community and produces and distributes environmental information.

Activities include:

- Conducting studies to determine if soils, vegetation communities, and wildlife are contaminated.
- Documenting impacts of contaminants and landuse practices on terrestrial ecosystems.
- Establishing and maintaining data files.
- Monitoring to determine degree and extent of contamination by accidental chemical releases.
- Monitoring to determine impacts of landuse, such as impact of large-scale irrigation projects on groundwater quality in shallow aquifers.
- Preparing reports and evaluating peer reports.
- Promoting development and application of guidelines, objectives and standards for terrestrial ecosystem components (includes participation in developing Canadian Council of Ministers of the Environment *Canada-Wide Standards*, and other guidelines and best practices for preventing environmental contamination from industrial and other sources).
- Reviewing development proposals, identifying potential impacts, and making recommendations for licensing.
- Assessing applications for funding to the Sustainable Development Innovations Fund, Climate Change Action Fund, and EcoAction2000.
- Providing scientific and technical support to government.
- Providing information and advice to public, local and environmental groups, Aboriginal communities, consultants, industry, and other government jurisdictions.
- Providing technical assessment to communities using groundwater for drinking, in response to water quality concerns.

Table TQ.1

Terrestrial Quality Management Activities 1998-99 to 2001-02

Activity	Units	Number[1]			
		98-99	99-00	00-01	01-02
Conducted a survey of metal concentrations in surface soils in the City of Thompson	Sites				62
Geo-reference marl pools at Gull Lake bog to provide baseline data regarding size and location of pools	Sites/ Transects				1/8
Sampled blueberries in vicinity of Flin Flon (plus a background site), to determine concentration of heavy metals in fruit and leaves	Sites			13	
Baseline monitoring of soil quality and biological composition (plants and birds) of a floodplain forest ecosystem along Assiniboine River.	Plots/ quadrats			3/30	3/30

Activity	**Units**	**Number**[1]			
		98-99	**99-00**	**00-01**	**01-02**
Baseline monitoring of soil quality and biological composition (plants) of an aspen stand at Fort Whyte Centre	Plots/quadrats				1/20
Baseline monitoring for Biosolids Application Research project, Portage la Prairie	Plots				4
Baseline groundwater monitoring for irrigation projects	Wells				38
Baseline monitoring of soil quality and biological composition (plants) of a wetland at Fort Whyte Centre	Plots/quadrats				1/30
Monitored revegetation success of native versus domestic plant species in revegetation trials of recently reconstructed dykes along Assiniboine River.	Sites/ quadrats			4/120	4/120
Investigate ability of clay soils to hold current and future deposition of heavy metals and to assess ultimate fate of heavy metals emitted into air from INCO smelter (dust and burn study)	Sites/plots				3/11
Technical review of *Proposals* under ***The Environment Act***, and ***The Dangerous Goods Handling and Transportation Act***.	Proposals	79	57	55	83
Technical review of draft *Licences* under ***The Environment Act***, and ***The Dangerous Goods Handling and Transportation Act***	Licences	58	39	39	67
Conduct other site-specific investigations	Number	3	5	2	3
Prepare technical reports and data/information summaries.	Reports, etc.	7	3	4	2
Louisiana-Pacific Stakeholder Advisory Committee meetings	Meetings	2	2	3	2
Contaminated sites: technical recommendations	Sites	2	6	30	1
Seminars presented	Seminars	1	2	1	1
Respond to requests for data/information	Responses	30	25	70	37
Respond to requests for soil quality standards	Responses	12	15	20	8
Respond to requests for information on treated wood use and disposal	Responses	3	5	2	4
Attendance at workshops, seminars, and conferences					9
Committee participation	Committees	14	14	14	13
Departmental integration teams participation	Teams		2	3	3

[1] Comparisons to other years is not always provided, because long-term monitoring is done once every five-years. Long-term monitoring is scheduled for different years on a rotational cycle, so that, in the course of a five-year period, each project is done once.

Table TQ.2
12.4(h) Terrestrial Quality Management

Expenditures by Sub-appropriation	**Actual 2001/02**		**Estimate 2001/02**	**Variance Over/(Under)**	**Expl. No.**
	$	**FTE**	**$**		
Total Salaries and Employee Benefits	280.7	5.00	280.6	0.1	
Total Other Expenditures	25.0		29.1	(4.1)	

Chapter 14

Pollution Prevention

The Branch promotes a shift of approach to environmental protection, from control and remediation, to prevention. The Branch administers ***The Waste Reduction and Prevention Act*** and ***The Ozone Depleting Substances Act***, and leads promotion of practices that avoid creation of waste and pollutants at source. The Branch also manages the Sustainable Development Innovations Fund and co-chairs the committee responsible for government-wide implementation of procurement guidelines under ***The Sustainable Development Act***. The Branch is active in four program areas:

- Waste Reduction,
- Pollution Prevention,
- Environmentally Sustainable Practices, and
- Funding Programs.

Waste Reduction

The Branch works to reduce solid waste going to waste disposal grounds. Significant progress was made in developing and promoting sustainable alternatives to waste disposal.

Since ***The Waste Reduction and Prevention Act*** was adopted (1990), recycling has increased substantially. Cost-effective working models have been established that demonstrate how producer responsibility can reduce disposal volumes, and transfer costs for product stewardship to industry and consumers, from local government and taxpayers.

The Branch continued to focus on programs that aim to:

- reduce volume of waste generated and disposed;
- separate hazardous from non-hazardous waste; and,
- improve waste disposal facilities.

The Branch was instrumental in establishing the Northern Regional Waste Management Committee involving municipal, Community Council, First Nations and Tribal Council, organization, and provincial and federal representation to address waste management issues unique to northern communities.

The Branch hosted an international Workshop on Extended Producer Responsibility (Winnipeg) with Environment Canada, that attracted over 90 policy and stewardship program managers from across Canada, Europe, and United States. Manitoba's leadership in establishing product-steward programs was main reason for selecting this location.

Staff participated on such committees as Federation of Canadian Municipalities Waste Minimization Advisory Committee, and City of Winnipeg's Waste Minimization Advisory Committee.

Used Oil Recycling

The stewardship program for used oil, filters and containers completed its fourth year. The *Used Oil, Oil Filters and Containers Stewardship Regulation* prohibits sale of lubricating oil products unless the vendor is registered and belongs to the stewardship program operated by Manitoba Association for Resource Recovery Corporation (MARCC). Purchases of lubricating products increased slightly from last year. Oil recovery increased 6% to 11.6 million litres of used oil. Filter recovery grew 4% to 1,490,000 filters. Container recovery increased 33% to 155,000 kgs. MARRC's recovery network expanded by adding 11 Eco-Centres.

MARRC has 120 members. As part of their membership agreement, vendors must pay Environmental Handling Charges based on product sales. There were 44 Eco-Centres in partnership with municipal governments and four privately operated depots.

Multi-Material Recycling

The Manitoba Product Stewardship Corporation (MPSC) is a statutory corporation (established 1995) under the *Multi-Material Stewardship Regulation* to implement waste-reduction programs for designated product packaging and paper products, managed by a 10-member stakeholder Board of Directors. Revenue is derived from a 2¢/beverage container levy paid by distributors. The Corporation supported 173 municipal recycling programs, ensuring that over 95% of Manitobans have recycling services. MPSC collected $6.6 million in container levies, paid out $5.2 million in Municipal Recycling Support payments, and recovered 39,000 metric tonnes (45%) of an estimated 87,000 metric tonnes of eligible material. On average, Manitobans recycled an estimated 35 kgs/person from their homes in 2000.

The Branch co-ordinated review and approval of the 3-Year Business Plan for MPSC.

Table PP.1

By-material Recovery Rates 2000

Eligible Material	Total Tonnes Recovered	Measured Generation (Tonnes)	Recovery Rate
Newspapers, magazines, flyers, telephone directories	23,993	35,651	67%
Glass containers	4,672	13,862	34%
Boxboard	2,208	9,683	23%
Residential corrugated cardboard	3,404	10,722	32%
Steel cans	1,598	6,226	26%
PET #1 plastic containers	1,020	2,744	37%
HDPE #2 plastic containers	910	3,881	23%
Aluminium cans	593	1,894	31%
Gable-top cartons and aseptic containers	429	2,117	20%
Total	**38,827**	**86,780**	**45%**

Tire Recycling

Tire Stewardship Board's (TSB) Scrap Tire Recycling Program (established 1995) is funded by a $2.80 levy on new tires sold for licensed vehicles.

Two significant fires involving scrap tires occurred. Tire Recycling Corporation of North America facility in Winkler was rebuilt following a major fire. The new facility has additional recycling capacity and began recycling tires after year-end. The TSB also tightened up procedures governing payments to processors after shredded tires in a roadbed in RM of Rosser were destroyed by fire. The new procedures will ensure that projects are completed before payments are made.

Due to loss of the Winkler facility, the tire recycling rate declined, while inventories increased. An estimated 758,000 tires were sold. Five active processors recycled 646,000 passenger tire equivalents (PTE's) and have in excess of 1.4 million PTE's in inventory. The Board raised $2.1 million in levies and paid recyclers $1.3 million in credit incentives for recycling 646,000 PTE's. TSB's $500,000 operating surplus at year-end will be eliminated once the Winkler facility is operational.

The Branch continues work with TSB on business plan renewal and resolving outstanding issues.

Regional Waste Management

The Branch continues to pursue development of regional waste management systems. Ten regional management systems for solid waste, involving three or more partners, were operating. Over 50 waste transfer stations have been established, replacing local disposal grounds, while an additional eight regional waste management partnerships are being planned.

The Branch continued additional waste management policy initiatives. Diversion of organic wastes through composting, improved management of construction and demolition waste, and waste management facility operating guidelines, were identified as needing further development. Many of these activities were supported under the Waste Reduction and Pollution Prevention Fund (established in 2000-01).

To further improve local waste management practices and ensure environmental protection, the Branch is co-ordinating development of operating guidelines for waste disposal grounds, composting operations, and waste transfer stations.

Household Hazardous Waste (HHW)

The Branch led public consultation to consider regulatory requirement for distributor responsibility for 11 product streams. Consultation included distribution of ***A Plan to Manage Household Hazardous Waste in Manitoba***" and a Website. Staff made 25 presentations to various organizations.

The HHW collection program sponsored 14 rural and 16 Winnipeg events and collected 491 tonnes, 17% more than last year. This program collected 21% of HHW generated by citizens.

Pollution Prevention

The Branch continued on-site assistance to businesses and industry associations. Staff engaged in voluntary partnerships with Manitoba Heavy Construction Association, Chambers of Commerce, and Prairie Grain Elevator Association. The Branch continues to work with, promote, and provide information and training services to organizations, including University of Winnipeg, University of Manitoba, Red River College, Centre for Indigenous Environmental Resources, City of Winnipeg, Manitoba Quality Network (Q-NET), Environmental Managers Network, Canadian Prairies and Northern Region of the Air and Waste Management Association, Manitoba Environmental Industries Association (MEIA), Green Procurement Network, and National Research Council/Industrial Research Assistance Program.

15 of Manitoba Heavy Construction Association's member companies took part in the Safety, Health and Environment Program audit. As part of training and awareness, courses attracting more than 300 participants were delivered. The Branch worked with MEIA and Q-NET to conduct training on such topics as pollution prevention planning and workplace health and safety responsibility.

Using *Environmental Self-Assessment Checklist*, developed for Manitoba Golf Superintendents Association, chemical storage and handling was assessed at 31 courses. Most made significant improvements to their practices. All of the courses improved pesticide storage and handling, and took habitat-enhancement initiatives.

Staff participate on the steering team for the Power Smart Eco-efficiency pilot program. The program, led by Manitoba Hydro, with participation from provincial and federal agencies, will target 10-15 businesses in each of the program's two years. The program supports business to reduce use of energy and water, solid waste and toxic materials, supported by Waste Reduction and Pollution Prevention Fund.

Environmentally Sustainable Practices

The Branch promotes environmentally-sustainable practices. Co-operative approaches and partnerships with stakeholder organizations are pursued.

Ozone Depleting Substances

The Ozone Depleting Substances Act and Regulation were established to restrict use of ozone-depleting substances (ODS) and to protect stratospheric ozone, to reduce, and eventually eliminate, release of ODS to the atmosphere.

As a participant on the Federal-Provincial Working Group on Ozone Depleting Substances and Halocarbon Alternatives, the Working Group completed the *Strategy to Accelerate the Phase-out of CFCs and Halon Uses and to Dispose of the Surplus Stocks*, and updated the *National Action Plan (NAP) for the Environmental Control of Ozone Depleting Substances and Their Halocarbon Alternatives*. The *Strategy* and revised *NAP* call for revising Provincial regulations. The Canadian Council of Ministers of the Environment approved the *Strategy* and revised *NAP*.

As part of the *Strategy*, the Working Group worked with industry stakeholders to develop a national program to manage, collect, transport and ensure sound disposal of surplus CFCs. A national extended producer responsibility program was established by the organization, Refrigerant Management Canada (RMC), who launched a national program to collect funds for transportation and disposal of surplus stocks.

In continuing to meet national and international commitments under the Montreal Protocol, in partnership with Manitoba Ozone Protection Industry Association, consultations began on proposed amendments to the ODS regulation.

Water Efficiency

In partnership with other federal and provincial departments, Manitoba Hydro, Association of Manitoba Municipalities, and several municipalities, staff continue to pilot a municipal water and energy audit—the Manitoba Municipal Efficiency Project. Reports for three municipalities were completed and many of the recommendations implemented. Implementation and monitoring of results continues. The partners are seeking funding to complete audits for 30 municipalities.

As part of the Winkler Aquifer Management Plan Education Initiative Action Group and the Oak Lake Aquifer Management Plan Education Committee, water efficiency and other-aquifer related educational material was developed and distributed to residents. The Oak Lake Aquifer group received $15,000 to enhance education of aquifer-related topics. Utility bill inserts, newspaper articles, radio public service announcements, and a poster contest for grade six students, raised awareness of water efficiency and aquifer protection.

To assist Canadian Mortgage and Housing Corporation to gauge interest in dual-flush (three-litre or six-litre flush) toilets, a project was initiated using toilets provided free by manufacturers/suppliers. Ten were installed in Manitoba facilities: two in a seniors' apartment block, three in an office washroom, two in the Gimli Town office, and three in the Gimli High School. The objectives were to test effectiveness in heavy use-areas, and to measure amount of water savings.

To increase awareness and share information on water efficiency, the Branch continues involvement in outreach projects, establishes linkages with drinking-water education organizations and participates in Association of Manitoba Municipality trade shows.

Sustainable Development Procurement Guidelines

As required by ***The Sustainable Development Act,*** government adopted new Sustainable Development Procurement Guidelines to make purchasing practices environmentally sensitive. A Sustainable Development Implementation Committee, co-chaired by the Branch, developed government-wide procurement goals. Departments will be required to prepare *Departmental Action Plans* to meet these goals.

The goals represent the essence of the Sustainable Development Procurement Guidelines in five areas significant to meeting the challenge, encompassing many sustainability concerns, and are a first step to reducing the Government's ecological footprint while enhancing community development. The goals are:

- Education, Training and Awareness
- Pollution Prevention and Human Health Protection
- Reduction of Fossil Fuel Emissions
- Resource Conservation
- Community Economic Development

Development began on a departmental *Action Plan*.

Green procurement was identified as a key tool for promoting sustainable development. The Branch was instrumental in developing the first annual Green Fair, which brought together suppliers and purchasers of 'green' products and services, and showcased corporate greening initiatives, and environmentally friendly products and services. The Branch assisted planning for the expanded 2002 *Going Green* conference and trade show.

Funding Programs

The Branch manages funding programs that support innovative solutions to environmental issues.

Sustainable Development Innovations Fund

The Fund (SDIF) supports development, implementation and promotion of environmental innovation and sustainable development projects by local governments, industry, community and youth groups, Aboriginal organizations, and First Nation communities. $3,150,000 was allocated to support an Open category, comprising several priority program areas, and targeted allocations. The latter include:

- Environmental Youth Corps
- Manitoba Climate Change Action Fund
- Manitoba Habitat Heritage Corporation Southwest Agro Woodlot Program
- Manitoba Orphan Mine Site Rehabilitation Program
- Manitoba Orphan Mine Site Assessment Program
- Waste Reduction and Pollution Prevention Fund

The Branch administers the Fund. Details on approved projects under SDIF for Open category and designated funding allocations are provided in a separate *SDIF Annual Report*, tabled in the Legislature.

SDIF Open Category

Proposed projects under the Open category are to address one or more priority areas and achieve or demonstrate measurable progress toward achieving the Fund's objectives. They must be environmentally and ecologically sound, promote a sustainable approach, have clear environmental benefits, and take into account benefits to the community and the economy. Projects should also demonstrate involvement of youth wherever possible. Open Category Priority Program Areas include:

- Eco-tourism.
- Ecosystem Conservation

- Environmental Technology Innovation and Demonstration
- Northern Environmental Issues
- Regional Waste Management
- Sustainable Agricultural Practices
- Sustainable Community Development
- Understanding Our Environment
- Water

Proposals submitted for funding consideration under Open Category are evaluated by government departments. Proposals are submitted to a SDIF Advisory Review Committee, comprising government representatives, who make funding recommendations to the Minister.

108 project proposals were considered, of which 72 projects were granted $1,547,808.

Waste Reduction and Pollution Prevention (WRAPP) Fund

The primary focus is to enhance local and regional waste-reduction programs, through improved collection and material handling systems, organic waste composting, and enhanced institutional waste management systems.

The Fund received $550,000. Staff processed 47 project proposals requesting $1.2 million in funding. Of these, 33 projects were eligible and received $539,945, including:

- The City of Winnipeg Organic Waste Management Program
- Thompson Regional Recycling System Enhancement
- The Pas and Area Recycling System Enhancement
- Industry Eco-Efficiency Partnership with Manitoba Hydro
- Northern Scrap Metal Recycling Feasibility Study
- Promotion of Backyard Composting
- Improved Institutional Waste Management Practices at Universities and Hospitals
- Green Procurement Initiative for Government

In addition, 13 local government and three First Nations waste-reduction projects were supported.

Environmental Youth Corps

The Corps offers young people an opportunity to voluntarily participate in community-based, innovative projects to improve and protect the environment. Projects must address concerns relating to environmental protection, enhancement, rehabilitation, conservation and/or resource management and must provide hands-on experience for youth up to age 24. Maximum grants are $5,000.

50 proposals were processed, of which 36 projects, involving 2,087 youths, were granted $87,254.

Table PP.2

12.4(j) Pollution Prevention

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	552.5	10.0	540.2	12.3	
Total Other Expenditures	51.4		92.4	(41.0)	

Chapter 15

Lands Branch

Crown Lands Operations

The Section administers Crown land and wild rice programs. It works with Regional Land Managers to ensure sound management practices and land-use decisions consistent with policies, procedures and legislation. Allocations and dispositions of Crown land include sales, exchanges, leases, permits, reservations, and easements.

Table LA.1
Crown Land Allocations

Disposition	New	Renewals
Easements	14	–
General Permits	106	2,626
Miscellaneous Leases	26	429
Sales completed	179	--
Sales (mines and minerals) completed	5	--
Sales cancelled/rejected	2	--
Sales appeal process	14	–
Sales applications in process	103	--
Vacation Home Leases	5	137
Vacation Home Permits	--	389

Crown land and waterlots are allocated for wild rice culture under authority of **The Wild Rice Act** by *Development* and *Production Licenses*. *Development Licenses* are issued for three years to test-seed and develop a stand. If successful, the *License* can be converted to a *Production License*. There are currently 87 *Development Licenses*, 186 *Production Licenses* and 13 *Block Licenses*. 21 applications for *Development Licenses* are in progress.

Treaty Land Entitlement

The unit administers transfer of land to Canada to fulfil obligations under the *Treaty Land Entitlement Framework Agreement*. Using a custom-designed computer GIS system, the Section identifies selection locations, calculates acreages, displays previous dispositions, and reports to Manitoba, Canada, and First Nations. The Section is involved in negotiation and administration of other native land-claim settlements.

Table LA.2
Treaty Land Entitlement Status

First Nation	Entitlement Acres	Crown Acres Selected	Acres Transferred	Acres Purchased
Barren Lands	66,420	17,647.90		
Northlands	94,084	0.00		
Brokenhead	* 14,481	4,684.90		
Buffalo Point	* 4,039	2,869.05		
Fox Lake	26,391	100.02		
God's Lake	42,600	46,804.62		

First Nation	Entitlement Acres	Crown Acres Selected	Acres Transferred	Acres Purchased
God's River (Manto Sipi Cree)	8,725	9,963.49		
Mathias Colomb	234,371	199,514.46		
Nisichawaysihk	79,435	64,753.22		
Norway House	104,784	90,970.09	3,898.95	
Opaskwayak	* 56,068	50,840.96		
Oxford House	35,434	1,543.94		
Rolling River	* 47,112	2,352.65		3,921.60
Sapatoweyak	* 144,179	113,398.59		
Wuskwi Sipihk	* 58,890	46,539.92	2,742.98	960.00
Sayisi Dene	22,372	0.00		
Shamattawa	24,912	19,350.05		
War Lake	7,156	490.16		
York Factory	29,173	10,806.13		
TOTAL	**1,100,626**	**687,811.75**	**6,641.93**	**4,881.60**
First Nations not signatory to the *Framework Agreement*				
Garden Hill	44,907.00	14,933.69	39,206.00	
Red Sucker Lake	9,487.00	14,602.95	9,585.37	
St. Theresa Point	34,413.00	4,656.29	35,185.80	
Wasagmack	11,193.00	962.33	12,511.30	
TOTAL	**100,000.00**	**35,155.26**	**96,488.47**	

* Includes both purchased and Crown Lands.

Sites Transferred

Norway House Cree Nation:	
Ponask Lake	3,898.95 acres ±
Red Sucker Lake First Nation:	
Community Island	26.90 acres ±
Hudson Bay Island	641.73 acres ±
Keno's Camp	70.14 acres ±
Moose Lake Camp	2,642.41 acres ±
Moses Point	1,096.10 acres ±
Neykawayak Point	143.12 acres ±
Red Sucker Lake Islands	321.09 acres ±
Red Sucker River to East End	4,274.58 acres ±
Wuskwi Sipihk Cree Nation:	
Old Building Bay (Phase 2)	995.80 acres ±
Stone Ridge Point	472.00 acres ±

Exclusive Use Permits Issued

Buffalo Point First Nation:
    General Permit 6751, issued 9 September 2001; Galley Restaurant.
Sapotaweyak Cree Nation:
    General Permit 6798, issued 15 January 2002; Dawson Bay (revised)
Wuskwi Sipihk Cree Nation:
    Bell River /PTH 10: General Permit 6772, issued 25 September 2001.
    Bell River /PTH 10 Addition: General Permit 6803, issued 29 January 2002.
    Kettle Hills: General Permit 6771, issued 25 September 2001.
    North Steeprock Lake: General Permit 6770, issued 25 September 2001.

Sites Approved For Survey

Buffalo Point First Nation:
  PTH 12/International Boundary
  Buffalo Point Access Road
Opaskwayak Cree Nation:
  Rocky Lake/Rocky Lake Addition
  Root Lake Beach Ridge
Sapotaweyak Cree Nation: Dawson Bay (revised)
Wuskwi Sipihk Cree Nation:
  Kettle Hills
  North Steeprock Lake

Accomplishments/significant activities

Treaty Land Entitlement Section reviews and transfers lands selected by First Nations in fulfilment of outstanding treaty obligations.

To date, the Section conducted review of 688,000 acres of Crown land selections by provincial departments and agencies to ensure consistency with the various settlement agreements, formulated a Provincial position on each site and held discussions with Canada and the First Nations to resolve the conditions under which the lands would be available for transfer. Crown lands have been transferred to Canada to fulfil Treaty obligations to Red Sucker First Nation in full.

Manitoba has approved six other sites for survey.

Lands Branch participated in an all-party committee to develop 'agreed forms' for transfer of lands to Canada, and worked with Branches and Regions to ensure compliance with the *Framework Agreement*.

Table LA.3

12.4(k)1 Crown Lands Operations

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	770.1	18.00	813.1	(43.0)	
Total Other Expenditures	1,269.9		1,481.2	(211.3)	

Crown Lands Registry

The Section maintains a secure, complete, and accurate record of current and historic dispositions of Crown land and related transactions. This is the only authoritative source of original grants of land and mineral rights from the Crown, including dispositions previously made by the Dominion Government. These records are maintained in the records vault and Crown Lands Registry Section (CLRS). Information dissemination to the Branch, other Departments, Crown agencies, public, and private sectors, occurs through computerized queries, reports, and paper or microfilm searches. CLRS also houses and generates accounting records and transactions for Lands Branch, Parks and Natural Areas Branch, and Aboriginal and Northern Affairs.

Development of a new Land Registry/Management system nears completion. This will be rolled out in two phases, with integration of geographic information technologies in Phase II. Use of "thin client" technology allowed wide-area distribution and online access to Departments and agencies across the province.

The Section continues discussions with key user groups to ensure maximum benefits can be realized and data-sharing opportunities explored.

Accomplishments/significant activities

- Accurate and timely delivery of mapping and registry recording requirements as necessary to support successful implementation of *Treaty Land Entitlement Framework Agreement*. Large volumes of land (about 1 million acres) processed to date.
- Successful installation of "thin client" technology to ensure efficient delivery of Crown Land Registry System throughout province.
- Continued direct participation and progress on fulfilment of the Cross Lake First Nation Northern Flood Agreement. Survey plans for five sites registered, waiting transfer documents to Canada; 12 further sites expected to have surveys completed by spring 2003.
- Significant research requests met regarding Pequis First Nation land claims.
- Conversion of Registry dispositions to graphic format completed for remote cottage sites and will continue, with lodges and outcamps being next mapped in GIS format.
- Integration with other Crown land/resource allocating authorities continues to a "common" Crown Land Registry System.

Table LA.4

12.4(k)2 Crown Lands Registry

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	$	Variance Over/(Under)	Expl. No.
Total Salaries and Employees Benefits	163.2	6.00	237.6	(74.4)	
Total Other Expenditures	118.9		197.0	(78.1)	

Remote Sensing

The Manitoba Remote Sensing Centre processed NOAA/AVHRR satellite data for Canadian World Crop Monitoring Program, Canadian Global Change Program, and Parks Canada, covering all of Canada, using GEOCOMP satellite image processing. Cloud-free image composites were created every 10 days between 11 April and end of October.

The Centre continued to generate land use/land cover data using satellite data for the east side of Lake Winnipeg. The block north of Bissett to Little Grand Rapids is in progress. These products are required for resource management and environmental monitoring activities and the Model Forest program.

The Centre was contracted by Prairie Farm Rehabilitation Administration(PFRA) to update the 1994 land use/land cover to 1999 for Rural Municipalities of DeSalaberry, Dauphin, Grandview and Gilbert Plains, and to update 1994 land use/land cover to 2000 for Swan Lake Basin and Little Saskatchewan Conservation District. PFRA contracted the Centre to acquire and ortho-rectifiy IKONAS 1-metre data for R.M of Hanover and to assess crop residue for the PFRA *Environmental Tax Credit Program*. Satellite imagery was used to assess and quantify farming land that had more than 40% crop residue prior to seeding.

The Centre completed the Canada-Czech Water Management and Emergency Preparedness Know-how Transfer Project. A goal of this project was to provide remote sensing information technology for a decision support system to monitor hydrological processes in Morava watershed.

The Centre completed a project for the Geological Survey Group, Industry, Trade and Mines, that required application of IRS-1C data to generate geo-coded base maps at 1:10000 scale in Flin Flon area, for exploration purposes.

The Centre was requested by the Water Resources Branch, to map overland flooding around Shoal Lakes in spring 2001. RADARSAT imagery was acquired and flooded lands extracted from the dataset. Tours and demonstrations were provided to over 25 groups.

Topographic Mapping

- Co-ordinated and compiled digital topographic data for Cross Lake region for Lands Branch under Northern Flood Agreement. Forty-five models were triangulated, compiled and sent to Indian Affairs and Northern Development Canada.
- Completed 17 watershed drain maps for Water Management Branch, with this data sent to the MLI site. Through enhancement of digital data, drains are designated by degree of contribution to the overall streamflow, and installation of culverts to assure continuous flow, in the digital elevation model being developed by Water Management.
- Completed topographic mapping requirements for Forestry Branch in southwest. 250 1:60,000 models were compiled, completing Forest Management Units 12 and 14. FMUs 10, 11, and 42 were 70% completed.
- Negotiations continued with NRCanada for integration of 1:50,000 topographic data with the Provincial product to speed up base-mapping in north. Manitoba will develop a workplan with stakeholders to expedite faster orthographic and base-map compilation for the north.

Table LA.5

12.4(k)3 Remote Sensing

Expenditures by Sub-appropriation	Actual 2001/02 $	FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	613.5	14.00	696.1	(82.6)	
Total Other Expenditures	75.9		306.4	(230.5)	
Recoverable from other Appropriations	(17.5)		(23.7)	6.2	

Land Mapping Services

Primary function is to develop and maintain province-wide digital (cadastral) property parcel data. The data is fundamental to a province-wide, multi-purpose information system. It provides land data users with a means to spatially reference their land data records such as infrastructure, assessment, ownership, land use, etc., to a common, geo-referenced, land parcel base that is timely, precise and homogeneous. The data is suitable for supporting a variety of parcel-based Geographic Information System applications. Primary users include Manitoba Hydro, Manitoba Intergovernmental Affairs (Assessment), Water Management Branch, Lands Branch, municipalities, and communities covered by the data, including Winnipeg and Brandon.

Major activities included:

- Development of digital land-parcel data in urban and rural areas continued to meet increasing demand by users. Over 19,128 land parcels were added to the Data Warehouse, including parcel data sets for Towns of Riverton, Niverville, Teulon, Balmoral, Garson, Tyndall, Altona and Gretna, among others, as part of parcel mapping service to Community Planning Branch (Manitoba Intergovernmental Affairs) and to Forestry Branch's Dutch Elm Disease program. Full parcel mapping of three townships was completed, covering Townships 17, 18, and 19 in Range 4E (Gimli/Winnipeg Beach area). Mapping of two entire Parishes (St. Andrews and Ste. Agathe) significantly contributed to parcel mapping of Red River corridor to meet Capital Region, Manitoba Hydro, and Water Management Branch GIS and parcel-mapping needs.

- Over 50 separate digital mapping datasets were updated under the annual maintenance program to ensure timeliness of parcel data to users.
- As requested by Lands Branch and others, the Section producing a comprehensive digital township/quarter-section grid for all Manitoba. This will merge existing digital township/quarter-section grid data in the south, with computed data for surveyed and unsurveyed (theoretical) townships in the north into a single product complete with unique parcel identifiers on grid fabric polygons. This master grid will provide users with a single source for geo-referencing spatially-related or DLS-referenced land information to a common base. It is also hoped to make this publicly available on CD.
- Also in conjunction with Lands Branch, the Section undertook a pilot project on feasibility of mapping Crown land parcels. In this test, survey parcel base for all of Parish of St. Peter was converted to digital ownership parcel mapping, based on review of Title information.
- To meet Departmental GIS needs, the digital parcel base was converted to ESRI shape file format and placed in the Data Warehouse for use by all Departments.
- A cohesive and consistent province-wide cadastral framework for geomatics and GIS applications is being assembled. This is used by Manitoba Hydro and Centra Gas, Manitoba Intergovernmental Affairs, other provincial agencies, and public-sector users as a common base on which data from varied sources can be integrated for data analysis, assessment, modelling, and display in a GIS environment, for decision-making and planning.

Table LA.6
12.4(k)4 Land Mapping Services

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	517.7	8.00	453.9	63.8	
Total Other Expenditures	92.1		90.2	(1.9)	

Chapter 16

Habitat Enhancement Fund

The Fund provided a grant to Manitoba Habitat Heritage Corporation, Critical Wildlife Habitat Program component, to support stewardship initiatives, resource inventories, land management (including native prairie management), and extension initiatives.

Table HE.1
12-3(h) Habitat Enhancement Fund

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2000/01		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Other Expenditures	50.0		50.0		

Chapter 17

Special Conservation and Endangered Species Fund

The Fund promotes principles of sustainable development through grants to community projects which embody close linkage between conservation and the economy. The Fund supported 23 projects, including wildlife rehabilitation, soil management, water management, lake rehabilitation, wetland research, waterfowl habitat preservation, and environmental education.

Table SC.1

12.4(n) Special Conservation and Endangered Species Fund

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Other Expenditures					
-Grants/Transfer Payments	300.2		432.1	(131.9)	
Total Other Expenditures	300.2		432.1	(131.9)	

Chapter 18

Environmental Stewardship

Divisional Administration

Divisional administration provides direction and facilities for development of legislation, policies, plans and programs to sustainably manage resources and the environment.

Divisional responsibilities include:

- Co-ordinating and integrating natural resource policy, legislation, environmental impact assessments, co-management agreements, land use planning, and resource allocation.
- Promoting and facilitating effective involvement of aboriginal people in management of natural resources and the environment.
- Managing the environmental approvals process to ensure sustainability of developments.
- Undertaking reviews to improve the efficiency and effectiveness of programming.
- Providing financial support to the Canadian Council of Ministers of the Environment and the Manitoba Eco-Network.
- Ensuring that effective relations are maintained with other governments.
- Negotiating resource co-management agreements.

Environmental Stewardship Division comprises:

- Sustainable Resource Management Branch
- Environmental Assessment and Licensing Branch
- Aboriginal Relations Branch

Table ES.1

12.5(a) Divisional Administration

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Salaries and Employee Benefits	142.7	2.00	151.1	(8.4)	
Other Expenditures	156.3		225.8	(69.5)	
-Grant Assistance	91.4		110.9	(19.5)	
Total Other Expenditures	247.7		336.7	(89.0)	

Chapter 19

Sustainable Resource Management

The Branch co-ordinates and integrates departmental policy, natural resource allocation and Crown land-use planning, environmental impact assessment, legislative interpretation, and co-management, in accordance with Principles and Guidelines of Sustainable Development. The Branch monitors cross-boundary water projects, provides planning and policy assistance to local planning authorities, administers licensing of resource-based tourism facilities, represents the Department in issues related to internal and international trade agreements, provides support on communications issues, co-ordinates preparation of Ministerial correspondence, and co-ordinates departmental settlements and litigation arising out of hydro-electric and water-control projects and Treaty Land Entitlement.

Integrated Directors Group Review Process

The Branch is secretariat to Integrated Directors Group, which establishes procedures for integrating management of natural resources, and the environment, consistent with sustainable development.

This process co-ordinates review and development of departmental positions on resource management issues, including ***Environment Act** Proposals*, land subdivisions, Crown oil and natural gas lease sales, highways proposals, applications to Sustainable Development Innovations Fund and Special Conservation Fund, and applications to Licensing Advisory Committee.

This mechanism assists the Branch in providing strategic planning, analytic, economic and evaluative services to assist management to improve effectiveness of departmental programming, Crown land-use planning and resource allocation. This includes:

- Managing the Department's assessment of development proposals under ***The Environment Act*** and the ***Dangerous Goods Handling and Transportation Act***, and submitted by other agencies and businesses, and pre-screening proposals from Manitoba Transportation and Government Services,
- Development of sustainability indicators for the ***Provincial Sustainability Indicators Report***, under ***The Sustainable Development Act***,
- Integrating Conservation policies and programs with other departments, including inter-departmental and inter-governmental committee participation. This includes supporting the Crown Land Classification Committee. As secretariat to the Committee, the Branch, in conjunction with regional Bloc Planning Committees, maintains and administers the system of operational coding on Crown Land, and prepares *Provincial Crown Land Plans*. The Branch also administers the Committee's system of review and determination on disposition (sale, exchange, designation by Order-in-Council) of Crown lands, and formulates policy and procedures for other issues involving Crown lands,
- Assisting planning, management and use of all Crown resources (wildlife and fish, surface and ground water, forests, minerals, outdoor recreation and ecological resources, Crown lands) by co-ordinating preparation of reports for municipalities and Planning Districts, and otherwise responding to requests for studies, maps, and statistical compilations required to properly allocate resources,
- Providing advice and comment to local planning authorities (municipalities and Planning Districts) on proposed new and amended *Development Plans* and *Zoning Bylaws*.
- Assisting review of *Annual Operating Plans* of Forest Management Licensees, and forest renewal strategies,
- Reviewing applications for funding under Sustainable Development Innovations Fund, the Special Conservation and Endangered Species Fund, and Fisheries Enhancement Initiative Fund,
- Co-ordinating licensing of resource-based tourism facilities and services, such as hunting and fishing lodges, outfitters, and eco-tourism,
- Assisting development of Fish and Wildlife *Sustainable Development Strategies*, particularly in respect of preparation for public review, as part of the *Land and Water Strategy*, and,

- Participating in the Geographic Information Systems Committee, which seeks to ensure that the Department's long-term GIS needs are met.

Legislation and Inter-governmental Affairs

The Branch ensures that conservation legislation and regulations are appropriate and up-to-date and that beneficial working relationships are established and maintained with other Canadian jurisdictions.

The Branch provides co-ordination for Headquarters Operations, Regions, other Branches, departments, and agencies on new and amending legislation, both provincial and federal, and on litigation. An advisory service on interpretation and application is provided to the Department and the public.

Legislation and regulations are developed, reviewed and amended, the Department is represented on Federal/Provincial committees and task forces, and agreements are negotiated to ensure consistent and effective environmental management.

The Unit liaises with legal counsel in Manitoba Justice and provides internal consulting service on legislative, public consultation, intergovernmental and other issues.

Legislation

- Assisted in preparing amendments to ***The Environment Act*** dealing with measures that may be required in the event of a health emergency caused by mosquitoes capable of transmitting disease.
- Assisted changes to regulations under ***The Water Resources Administration Act***.
- Co-ordinated or assisted other regulation development and amendment processes, including:
  - *Drinking Water Regulations*,
  - *Training and Certification of Water Plant Operators*,
  - *Storage and Handling of Petroleum Products and Allied Products Regulation.*
  - Departmental input into amendment of ***The Summary Convictions Act*** regulations on set fines.
  - Chaired committee investigating issues of biomedical wastes.
- Continued liaison with Manitoba Justice.
- Initiated process for amending ***The Environment Act*** to implement recommendations of the *Report on the Consultation on Sustainable Development Implementation*. [Linda]
- Changes to the *Designated Flood Area Regulation* under ***The Water Resources Administration Act*** were completed, providing enforcement and notice provisions in respect of building standards in the Red River Valley Designated Flood Area.

Intergovernmental Affairs

- Supported the Minister as Chair of the Canadian Council of Ministers of the Environment.
- In conjunction with the CCME Secretariat, facilitated, co-ordinated, and assisted with two national Environment Ministers meetings (The Pas, Winnipeg).
- Monitored trade and environment issues, including the Canada/United States softwood lumber trade dispute.
- Supported the Minister as Chair of the Governmental Committee of Canada's representation on the North American Commission for Environmental Co-operation.
- Completed negotiation of a *Canada-Manitoba Implementation Agreement* to implement *Inspections and Enforcement Sub-Agreement* under the *Environmental Management Harmonization Accord,*
- Manitoba representative on intergovernmental committees:
  - *North American Agreement on Environmental Co-operation* (Canada Implementation Working Committee and Canada Implementation Senior Officials Committee),
  - Canadian Council of Ministers of Environment Committees:
  - CCME Environmental Protection and Planning Committee,
  - CCME Ad Hoc Toxic Substances Task Group,
- Co-ordinated *Manitoba/Saskatchewan Environmental Management Accord,*
- Contact for implementation of *Internal Trade Agreement.*

Other

- Co-chaired Steering Committee for implementing the recommendations of the *Report on the Consultation on Sustainable Development Implementation*,
- Assisted planning for *Water Management Strategy*.

Co-Management

- The Branch develops policy, procedures, and guidelines for co-management of natural resources with First Nations communities and organizations, facilitates negotiation and leadership of boards and committees, and integrates departmental participation in agreements. The Branch:
  - Co-ordinates consultation with First Nations and northern communities on resource allocations for lodges and outfitters,
  - Sits on Norway House Resource Management Board for integrated land and resource use in their Resource Management Areas,
  - Reviews Northern Flood Agreement resource management agreements and co-ordinates departmental input and requirements,
  - Participated in discussions with Opaskwyak Cree Nation, on co-operative management of natural resources, and with West Region Tribal Council, on co-management on Dauphin Lake, and,
  - Acts as liaison with other Provinces.

Transboundary Water Projects

The Branch monitors development of international and inter-provincial water projects, to protect Manitoba's interests and ensure protection of quality and quantity of water flowing into Manitoba.

The Transboundary Waters Office represents Manitoba interests relating to waters crossing the International Boundary. The Office has established a working relationship with Canadian, American and international agencies and officials. It represents Manitoba on the United States-Canada Consultative Group on Garrison, co-ordinates interdepartmental input and analysis of proposals related to the Garrison Diversion Unit and Devils Lake, liaises with the International Joint Commission, monitors activities of IJC Boards and co-ordinates Manitoba responses. The Office works closely with Foreign Affairs and Environment Canada in developing and presenting Canadian positions to United States.

Watershed Management Projects

Manitoba, represented in part by the Branch and Water Quality Management Section of Water Management Branch, engaged with other Departments (Aboriginal and Northern Affairs, Intergovernmental Affairs), City of Winnipeg, Ontario, First Nations, and Canada, in developing a watershed management plan. This plan includes a focus on water quality concerns and local communities' needs to use watershed resources. Inter-jurisdictional meetings have resulted in shared information and determination of general principles to guide preparation of the plan. The plan continues to be developed and focuses on water quality and protection, sustainable use of resources and community sustainability. The Branch continues to work closely with Water Management Branch, other provincial agencies, and Winnipeg for plan development, completion, and to investigate an acceptable implementation format.

Licensing Advisory Committee

The Branch provides secretariat, and Chair, for Licensing Advisory Committee (LAC). The Committee, which comprises the Branch, Regional Operations and Environmental Management Divisions, Manitoba Culture, Heritage and Tourism, and Manitoba Aboriginal and Northern Affairs, makes recommendations to the Minister on licensing resource-based tourism facilities, which include hunting, fishing and ecotourism lodges, outcamps and outfitter services. About 1,100 licences are issued annually.

The Branch serves as secretariat to the LAC Appeals Committee, which provides an appeal mechanism for operators wishing to appeal an LAC decision.

Hydro-Electric and Water-Control Project Settlements

The Branch co-ordinates departmental input into settlements arising out of *Northern Flood Agreement*, outstanding matters relating to Grand Rapids Forebay development, Fairford River control structure, and other claims by First Nations resulting from hydro-electric or water-control projects. Negotiations with Cross Lake First Nation regarding *Northern Flood Agreement* are progressing.

Treaty Land Entitlement

The Branch formulates the Department's position on Treaty Land Entitlement issues. Policies are developed about availability of Crown land for Treaty Land Entitlement settlements.

Other Programs

The Branch represented the Department in trade matters related to the *Agreement on Internal Trade*, *NAFTA* and *GATT/WTO* agreements. Activities included representing the Department in development and implementation of the *Processing of Natural Resources* chapter of the ***Agreement on Internal Trade***, co-ordinating activities associated with implementation of *NAFTA*, monitoring trade developments in resource issues, and conducting liaison with other departments and jurisdictions on trade matters involving resources.

The Branch co-ordinated negotiations with forestry companies to increase opportunities for sustainable use of forest resources.

The Branch co-ordinated preparation of Ministerial correspondence for Parks and Natural Areas, Forestry, and Wildlife issues.

Staff supported Manitoba Round Table for Sustainable Development in preparing fish and wildlife policies. Two final reports, *Fish Strategy* and *Wildlife Strategy*, were forwarded by the Round Table to government. These reports provide policy and legislation recommendations for conservation, management, and sustainable use of wild plant, animal, and fish resources.

Sustainable Development Co-ordination

The work of the Department is founded upon a commitment to the Principles and Guidelines of Sustainable Development and fulfilment of the requirements of ***The Sustainable Development Act***.
To further understanding and implementation of sustainable development, the Branch co-ordinated departmental assistance in:

- preparing strategies and education and promotion programs,
- providing administrative and research services to Manitoba Round Table for Sustainable Development,
- co-ordinating review of policy and strategy implementation by Interdepartmental Planning Board,
- developing sustainability indicators, preparing the provincial ***Sustainability Report***, *Sustainable Development Code of Practice*, and *Financial Management Guidelines* and *Procurement Guidelines*, Goals and Organizational Action Plans,
- co-ordinating application of ***The Sustainable Development Act*** *to* public sector organizations,
- administering the Sustainable Development Innovations Fund, and
- other tasks assigned by the Minister.

Manitoba's *Sustainable Development Code of Practice*, *Financial Management Guidelines*, *Procurement Guidelines*, and *Sustainability Indicators* were adopted and released. Procurement Goals were approved, in principle, pending further consideration of Aboriginal procurement and community economic development. An implementation process for the *Code, Guidelines*, and sustainability reporting were also adopted.

An East Side Planning Round Table was established and Phase II of the Broad Area Planning Program began.

The Manitoba Round Table for Sustainable Development, comprising 26 members, including six Cabinet Ministers, with Minister of Conservation as Chair, met three times.

Some Round Table priority areas and activities:
- COSDI implementation
- Climate change
- Sustainability Indicators
- *Fish and Wildlife Strategies*
- *Water Management Strategy*
- *Sustainable Development Education Strategy*
- Manitoba Youth Round Table
- Sustainable Development Scholarship Program
- *Awards of Excellence* Program

Further details on the Manitoba Round Table's acitivites can be obtained from its 2001-02 ***Annual Report***.

Table SR.1
12.5(b) Sustainable Resource Management

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	1,117.9	18.00	1,029.7	88.2	
Other Expenditures	918.8		1,292.6	(373.8)	
Total Recoveries			10.2	(10.2)	

Chapter 20

Environmental Assessment and Licensing

To ensure that development maintains sustainable environmental quality, the Branch:

- Administers development approval requirements of ***The Environment Act***, ***The Dangerous Goods Handling and Transportation Act***, and ***The Public Health Act***,
- Controls municipal, industrial, and hazardous waste sources of pollutants,
- Ensures safe drinking water,
- Minimizes environmental impact of development proposals, and
- Minimizes adverse effects to the environment and public health from pesticide use.

Municipal, Industrial, and Hazardous Waste Approvals

To control municipal, industrial and hazardous waste sources of pollutants, and ensure safe drinking water, the Section:

- Co-ordinates environmental assessment and licensing of proposed Developments,
- Recommends conditions to the Director and Minister for *Development Licences*,
- Advises on technical aspects of pollutant treatment, control strategies, and hazardous waste,
- Evaluates proposed water and wastewater works for public health concerns in preparation for approval by Minister of Health,
- Reviews minesite rehabilitation schemes,
- Provides technical assistance to municipal, provincial, and federal governments on water treatment and distribution, wastewater collection, treatment and disposal, air emission control, and management of hazardous wastes,
- Provides technical support to other Departments,
- Conducts inspection and enforcement activity for developments in planning, construction, and operating stages,
- Responds to complaints and inquiries, and
- Represents the Department at public meetings or hearings.

Environmental Land Use Approvals

To ensure that potential environmental impacts are identified and addressed in projects which affect land and water use, the Section:

- Co-ordinates environmental assessment and licensing of proposed developments in recreation, transportation, transmission, pipelines, hydro-electric generation, forest management, and water development and control,
- Co-ordinates environmental review of proposed municipal *Development Plans* and *Zoning Bylaws* and amendments, and Treaty Land Entitlements,
- Co-ordinates environmental review of Canada/Manitoba Infrastructure Works projects,
- Assists developing and revising legislation, policies and procedures,
- Participates in and provides technical advice for projects and program planning, including screening of Manitoba Transportation and Government Services projects,
- Participates on interdepartmental committees and task forces, and review and approval by letter, of projects with environmental impacts not included in *Classes of Development Regulation*,
- Participates on Tembec, Tolko Manitoba and Louisiana-Pacific forest management stakeholder advisory committees,
- Provides management services for such other initiatives as Manitoba Model Forest and Manitoba Forestry Association,
- Conducts inspection and enforcement for developments in planning, construction, and operating stages,
- Responds to complaints and inquiries, and

- Represents the Department at hearings and public meetings.

Pesticide Approvals Section

To minimize adverse effects to health and the environment from pesticides and fertilizers, the Section:

- Provides professional expertise to the Department, government, public, and industry on pesticide/fertilizer use, storage, disposal, and control,
- Manages a *Pesticide Permit* system to address public concerns/objections,
- Recommends conditions to the Director and Minister for *Environment Act Licences*,
- Assists in periodic revision of *National Standard for Pesticide Education, Training, and Certification in Canada* for pesticide applicators and vendors,
- Provides technical expertise and advice to the Association for a Clean Rural Environment on container disposal and other environmental concerns,
- Supplies expertise to the Federal, Provincial, Territorial Committee on Pest Management and Pesticides through annual national meetings and telephone conferences,
- Serves on the Board of Directors and provides information to the Prairie Provinces Certified Crop Advisor program,
- Serves on the Board of Directors and provides advice to the Industrial Vegetation Management Association,
- Conducts inspection and enforcement activity for developments in planning, construction, and operating stages, and
- Responds to complaints and inquiries respecting pesticide/fertilizer use.

Table EA.1

Environmental Approvals Activities

(ELUA - Environmental Land Use Approvals; PA - Pesticide Approvals; MIHWA - Municipal, Industrial, and Hazardous Waste Approvals)

Activities	**ELUA (#)**		**PA (#)**		**MIHWA (#)**		**Total**	
	01-02	**00-01**	**01-02**	**00-01**	**01-02**	**00-01**	**01-02**	**00-01**
The Environment Act								
Project proposals received	22	14	8	18	43	33	73	65
Project proposals processed	18	12	8	18	22	28	48	58
Project proposals refused	0	0	0	0	3	1	3	1
Minor alterations requests received	16	13	2	2	31	28	49	43
Minor alterations requests processed	16	13	2	2	24	25	42	40
Revision requests to *Licences* approved	0	0	3	2	10	19	13	21
Pre-Licensing activities processed	36	32	0	1	32	33	68	66
Municipal Dev. Plan/Zoning By-law reviews*	22	68					22	68
Highways pre-planning reviews	16	21					16	21
Infrastructure project reviews-Can/Man	110	0		0	13	132	123	132
Hydro Low Voltage reviews	4	6					4	6
Other Reviews. Licence not required	34	36	0	0	15	35	49	71
Site inspections, monitoring and enforcement	96	84	119	167	97	111	312	362
Pesticide Use Permits Issued			225	219			225	219
Post Seasonal Reports received/compiled			217	212			217	212
Public complaints investigated	17	14	16	14	19	11	52	39
Public meetings attended	27	16	3	4	10	16	40	36
Public Hearings attended	1	0	0	0	1	0	2	0
The Dangerous Goods Handling and Transportation Act								
Project proposals received					7	6	7	6

Activities	ELUA (#)		PA (#)		MIHWA (#)		Total	
	01-02	00-01	01-02	00-01	01-02	00-01	01-02	00-01
Project proposals processed					7	4	7	4
Minor alterations requests received					3	3	3	3
Minor alterations requests processed					3	4	3	4
Pre-Licensing activities					5	3	5	3
Site inspections, monitoring and enforcement					10	10	10	10
Public meetings attended					0	1	0	1
The Public Health Act								
Proposals received for *Certificates***					27	24	27	24
Proposals processed for *Certificates***					30	20	30	20
Proposals reviewed**					64	27	64	27
Fumigation Permits issued			5	4			5	4

** Co-ordination of review of municipal development plans and zoning by-laws was assumed by Sustainable Resource Management Branch in July 2001.*

*** Responsibility assumed by Headquarters Operations in November 2001.*

Significant activities

- Simplot Potato Processing Plant/City of Portage la Prairie: proposals to construct a potato processing plant and expand the City's wastewater treatment facility were reviewed, public hearings were held, ***Environment Act** Licences* were issued.
- *Mandatory Certification for Operators of Water and Wastewater Facilities Regulation* to implement mandatory certification program for operators was developed.
- City of Winnipeg: joint reviews of environmental issues are underway: biosolids, ammonia reduction and combined sewer overflows.
- Midwest Foods Ltd.: environmental review of potato processing plant, Carberry, commenced.
- Manitoba Hydro: significant improvements to air emissions by converting Selkirk Generating Station from coal to natural gas.
- New Flyer Industries Limited: new *Licence* issued that allows identified issues to be addressed in timely and cost-effective manner.
- Winkler Wastewater Treatment Facility: expansion to the treatment facility, to accommodate increases in industrial wastewater, was licenced.
- Provencher Paired Bridges Project: co-ordinated environmental assessment and licensing. Winnipeg filed a *Proposal* and an *Environmental Impact Statement* to replace vehicular bridge and construct separate pedestrian bridge. Public consultation and Technical Advisory Committee review was completed and an ***Environment Act** Licence* issued. Construction is underway.
- Aquifer Management and in-stream flow studies: provided technical support for development of water-quality protection plan for Oak Lake Aquifer, and continued support of *Winkler Aquifer Management Plan* implementation. Participated on technical committees to direct determination of in-stream flows, development of drainage maintenance guidelines, and aquifer management plan for Assiniboine Delta Aquifer.
- Flood Protection Works and irrigation development: participated in, and provided technical support for, several flood protection studies. Continued participation on Federal/Provincial Committees and Working Groups on planning and regulation of irrigation development.
- Hydro Projects: Manitoba Hydro filed *Proposals* for Wuskwatim generating station and associated transmission lines. Requirements of *Canada-Manitoba Agreement On Environmental Assessment Co-operation* will ensure thorough and comprehensive environmental assessment and review. Manitoba Hydro was issued an ***Environment Act** Licence* for construction of 115 kV switching substation in Whiteshell Provincial Park near Brereton Lake. ***Environment Act** Licence* was issued to Hydro for construction of high-voltage transmission line from Glenboro to North Dakota. Planning studies for high-voltage transmission line on east side of Lake Winnipeg continued.
- Manitoba Model Forest: involvement continued, with staff on Board of Directors and Executive Committee. Staff provided significant assistance in developing ***Manitoba Model Forest Phase III***

Five-Year Proposal to Canadian Forest Service, which was accepted, ensuring continuation of Manitoba Model Forest for five years. Staff attended meetings of Directors, Executive Committee, and Advisory Group, and assisted planning meetings, research workshops and conferences. Liaison, project planning and initiation activities continued with twinned Monarch Butterfly Model Forest in Mexico, assisting acquisition of Canadian International Development Agency funding.

- Federal property transfers: continued review and co-ordination of federal environmental assessments for transfer of federal facilities and properties to municipal and private authorities.
- Tembec Interim *Three-Year Plan*: review co-ordination continued. Due to preparation of a wide-area landuse plan for east side of Lake Winnipeg, Tembec withdrew their application for a *Sustainable Forest Management Plan 2001-2010* and requested an extension of their ***Environment Act** Licence*, while they develop an *Interim Three-Year Forest Management Plan*. A one-year extension to the ***Environment Act** Licence* was granted for 2002 while the company works with new First Nation partners in forest management development opportunities and preparation of a *Plan*. Staff participated on interdepartmental and intradepartmental planning committees on this *Proposal*.
- *Pesticide Use Permits*: review and approval of applications for pesticide use continued. Government departments and municipalities require a *Pesticide Use Permit* annually.
- Crop Protection Warehouses/Fertilizer Developments: review of applications to upgrade agricultural chemical storage facilities to meet industry standards continued. All facilities are required to meet stringent requirements in order to receive chemical products.
- Pesticide Regulations: Health Canada announced an *Action Plan for Urban Use Pesticides*, developed in partnership with provincial and territorial governments. A main objective is reducing pesticide use on lawns by applying Integrated Pest Management principles emphasising prevention, reduced-risk products, and pesticide application only when necessary. Pesticide Classification Implementation Working Group produced *A Proposal For A National Pesticide Classification System For Canada* to harmonize federal and provincial classification systems.
- West Nile Virus: with federal, provincial and territorial ministries, Manitoba Health established a comprehensive, co-ordinated, and pro-active *Risk Management Plan* to respond to West Nile Virus.

Table EA.2

Suspensions or Variations under The Environment Act 1999-2001

Section 18(2) of ***The Environment Act*** states:

"A suspension or variation granted pursuant to subsection (1) shall be recorded in the public registry and in the department's annual report."

The following suspension requests were approved in 1999-02:

Date	**Location**	**Purpose**
May 25/99	Town of Roblin	Emergency Lagoon Discharge Environment Act Licence No. 2313 S2
July 09/99	City of Thompson	Emergency Lagoon Discharge Environment Act Licence No. 1107
Oct. 06/99	Town of Roblin	Lagoon Discharge Environment Act Licence No. 2313 S2
Oct. 14/99	R.M. of Tache	Emergency Discharge Environment Act Licence No. 619
Oct. 25/99	Town of Roblin	Lagoon Discharge Environment Act Licence No. 2313 S2
Oct. 26/99	R.M. of Gimli	Emergency Discharge Environment Act Licence No. 2140 S2
Mar. 03/00	Pine Falls Paper Co. Wastewater Lagoon	Sewage Discharge Environment Act Licence No. 638
Mar. 24/00	Village of Plum Coulee	Sewage Discharge

Date	Location	Purpose
	Wastewater Facility	Environment Act Licence No. 175P
June 5/00	Town of Roblin	Emergency Lagoon Discharge Environment Act Licence No. 2313 S2
July 24/00	R.M. of Gimli Industrial Park Sewage Treatment Plan	Environment Act Licence No. 2140 S2R
Aug. 29/00	Village of Plum Coulee Wastewater Facility	Environment Act Licence No. 175 P
Sept. 15/00	St. Adolphe Wastewater Treatment Lagoon	Emergency Lagoon Discharge Environment Act Licence No. 1004
Sept. 28/00	R.M. of Tache Lorette Waste Disposal Ground	Burning of Branches & Brush Environment Act Licence No. 2373 ER
Oct. 04/00	Town of Roblin Wastewater Lagoon	Discharging Treated Effluent Environment Act Licence No. 2313 S2
Oct. 12/00	R.M. of Cartier Elie Wastewater Treatment Lagoon	Lagoon Discharge Environment Act Licence No. 2348 R
Oct. 24/00	Town of Roblin Wastewater Lagoon	Discharging Treated Effluent Environment Act Licence No. 2313 S2
Nov. 02/00	Springfield Colony Wastewater Lagoon	Discharge of Effluent Environment Act Licence No. 2434
Mar. 06/01	Tembec Paper Group Pine Falls Operation	Discharge of Sewage Environment Act Licence No. 638
Mar. 09/01	Town of Emerson	Emergency Lagoon Discharge Environment Act Licence No. 2382 R
Mar. 21/01	Crystal Spring Colony Farms Ltd. Wastewater Treatment Lagoon	Lagoon Discharge Environment Act Licence No. 2226 R
April 5/01	R.M. of DeSalaberry St. Malo Wastewater Lagoon	Emergency Discharge Environment Act Licence No. 1011
April 10/01	Bissett Gold Mine Harmony Gold Mining Co.	Discharge of Effluent Environment Act Licence No. 2161 S1 RR
April 15/01	R.M. of Roland Wastewater Treatment Facility	Hydraulic Overload/Emergency Discharge Environment Act Licence No. 999
April 25/01	Town of Plum Coulee Wastewater Treatment Facility	Emergency Discharge Environment Act Licence No. 175P
April 25/01	R.M. of Lorne Swan Lake Wastewater Facility	Emergency Discharge Environment Act Licence No. 88P
April 27/01	R.M. of DeSalaberry St. Malo Wastewater Lagoon	Emergency Discharge Environment Act Licence No. 1011
May 1/01	Town of Winkler Wastewater Treatment Facility	Discharge of Effluent Environment Act Licence No. 1069
May 2/01	Norquay Colony Wastewater Treatment Facility.	Emergency Discharge Environment Act Licence No. 1336

Date	Location	Purpose
May 3/01	Bissett Gold Mine Harmony Gold Mining Co.	Discharge of Effluent Environment Act Licence No. 2161 S1 RR
May 16/01	Town of Roblin Sewage Lagoon	Discharge Sewage Effluent Environment Act Licence No. 2313 S1
May 22/01	R.M. of DeSalaberry St. Malo Wastewater Lagoon	Emergency Discharge Environment Act Licence No. 1011
May 22/01	R.M. of Hanover Blumenort Wastewater Lagoon	Emergency Discharge Environment Act Licence No. 1065
May 23/01	Town of Altona Wastewater Facility	Emergency Discharge Environment Act Licence No. 1681
June 7/01	Rosebank Colony Wastewater Facility	Emergency Discharge Environment Act Licence No. 1326 R
Sept. 28/01	Silver Winds Holding Co. Ltd Wastewater Facility	Emergency Discharge Environment Act Licence No. 2207
Oct. 18/01	Rosebank Colony Wastewater Facility	Emergency Discharge Environment Act Licence No. 1326 R
Oct. 24/01	(Parks) Grand Beach Provincial Park	Shutting Down Sewage Treatment Plant Environment Act Licence No. 860
Oct. 29/01	Town of Winkler	Emergency Discharge Environment Act Licence No. 1069
Nov. 8/01	R.M. of Hanover Blumenort Lagoon	Emergency Discharge Environment Act Licence No. 1065
Nov. 30/01	Town of Gillam Sewage Treatment Plant	Wastewater Bypass Discharge Environment Act Licence No. 2404 S2
Dec. 20/01	Maple Leaf Pork	Maintenance on the DAF Units Environment Act Licence No. 2311 S2

Table EA.3

12.5(c) Environmental Assessment and Licensing

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	1,067.2	18.00	1,134.5	(67.3)	
Other Expenditures	116.1		125.4	(9.3)	

Chapter 21

Aboriginal Relations

The Branch was initiated to develop and maintain a positive relationship with Aboriginal people of Manitoba. It is important that this level of commitment be recognized to meet the ever-increasing requirements of the Aboriginal community, non-Aboriginal community, and Manitoba Conservation. There has not before been such a concerted effort by the Department in developing a proactive relationship between all users of natural resources.

In setting direction for the Department, the Branch participates in strategic planning processes, such as development of policies, legislation, and programs to ensure that Aboriginal and Treaty rights are taken into consideration. The Branch is accountable for the research, analysis, development, implementation and evaluation of new and existing resource programs. The Branch is engaged in development of integrated resource policies, legislation relating to land use, co-management, resource allocation, environmental impacts, sustainable development initiatives, and enforcement. Another essential element of its mandate is to bridge user views and requirements of Aboriginal communities. The Branch also facilitates communication between the various user interests and the Department.

Perhaps the most important initiative the Branch undertook this year is establishment of an intra-departmental working group to develop policy and procedure directives on consultation with Aboriginal peoples. This policy is in accordance with the ***Natural Resources Transfer Agreement*** (1931), the ***Constitution Act of Canada*** (1982), and direction provided by Court decisions affecting the Department's requirement to consult with Aboriginal people on Aboriginal and Treaty rights. The Aboriginal community will play an integral role in developing this policy.

The Branch was involved in all aspects of natural resource management, including program and policy review and development. It has also taken an integral role in dispute resolution by facilitating dialogue between the Aboriginal community and the Department. In the long term, dialogue between all users and Aboriginal involvement in decision-making will lead to improved management of natural resources.

General Activities

- Provided input from an Aboriginal perspective through review of natural resource management programs, proposed programs, and in drafting policy and legislation,
- Met with Aboriginal community to identify concerns and issues, and develop plans of action to resolve them,
- Assisted developing action plans to resolve Aboriginal community issues,
- Provided direction for the Department and the Aboriginal community in natural resource management programs and issues,
- Participated in discussions and negotiations to develop formal agreements for managing natural resources,
- Developed proactive programs for delivery in the Aboriginal community;
- Provided educational information through varied media to the Department, Aboriginal, and non-Aboriginal communities,
- Attended meetings and gatherings in Aboriginal and non-Aboriginal communities, and with users of natural resources, and
- Responded to inquiries from the Department, resource users, public, and educational institutions.

Specific Accountables

- Developing draft *Policy and Procedure Directives on Consultation with Aboriginal People,*
- Comment on *Atikaki Provincial Park Management Plan* and *Bloodvein Canadian Heritage River Proposal,*
- Comment on *Manitoba Forest Strategy,*

- Comment on First Nations use of timber for personal and ceremonial use,
- Developing the Hunter and Firearm Safety Instructor Training Program,
- Developing a Webpage, *Fishing, Hunting and Trapping; The Rights and Responsibilities of First Nations People,*
- Developing inserts into *2002 Anglers' Guide, Hunting Guide* and *Trapper's Guide* on rights and responsibilities of First Nations people,
- Review and comment on Crown land sale policy;
- Participating in Treaty Land Entitlement process;
- Review and comment on licensing requirements for lodges and outfitters;
- Review and comment on the Community Joint Planning Pilot Project;
- Review and comment on fish and wildlife allocation and use.

The Branch is staffed by a Director, two policy and program analysts, a Wildlife Manager (secondment from Wildlife and Ecosystem Protection Branch), and a Heritage Resource Specialist.

Aboriginal Resource Council

The Branch provides secretarial support to the Aboriginal Resource Council, an advisory body to the Minister.

The Council, the first of its kind in Canada, provides Aboriginal input and advice on development of policies, environmental protection, and conservation of natural resources. The Council provides First Nations and Métis perspectives and advice on:

- Program and policy development and processes,
- Issues including co-management, forestry, mining, fishing, and non-timber forest products,
- Resource management information,
- Development and capacity-building of First Nation and Métis communities,
- Review and evaluation of Departmental policies, legislation, and programs.

The advice the Council provides to the Minister became integral to making decisions on natural resources. The following recommendations and responses were presented to the Minister:

- *Natural Resource Agreement Process with Aboriginal Peoples*;
- Sundown Decision (construction of hunting cabins) as incidental activities which are essential, or integral activities which are meaningfully related or linked;
- How fishing, hunting and trapping laws apply to Status Indian people;
- Response to the *Draft East Side of Lake Winnipeg: Phase I Preliminary Discussions; Summary of Comments and Recommendations From Phase I Discussions,*
- Response to *Water--a Proposed Strategic Plan for Manitoba*;
- Recommendations on *Park Vehicle Permit*;
- Recommendation on distribution of information about Chronic Wasting Disease in wild deer and elk,
- Response to *Building a Sustainable Future: Proposed Changes to Manitoba's Environment Act* and *Report from the Chair*; *Environment Act Amendment Core Group 2002 Proposed Environment Act Amendments*; and *COSDI Report (Aboriginal Interface Section).*

Table AR.1
12.5(d) Aboriginal Relations

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Salaries and Employee Benefits	110.8	3.00	125.1	(14.3)	
Other Expenditures	29.2		50.0	(20.8)	

Chapter 22

Clean Environment Commission

Under ***The Environment Act***, the Commission provides a mechanism through which the public can participate in environmental decision-making. The Commission conducts public reviews and hearings into matters of environmental concern and provides advice and recommendations to the Minister. The Commission, while reporting directly to the Minister, is independent of the Department.

The Commission's legislative mandate requires publication of its own ***Annual Report***, with particulars on its mandate and operations. Copies can be obtained from the Commission at 305-155 Carlton Street, Winnipeg, MB R3C 3H8. The Commission can be contacted by telephone at 204-945-0594 or toll free at 1-800-597-3556 or by fax at 204-945-0090. The Commission's web site is www.cecmanitoba.ca.

The Commission was involved in a number of unique public consultation exercises. These included the Premier's Climate Change Task Force Consultation, for which the Commission served as administrative secretariat, and City of Winnipeg Flood Protection Options Consultations.

The Commission engaged in two mediation projects, the Rothsay Rendering/Area Residents Process and "Southern Area" Forest Consultations. Two independent reviews were conducted: on electro-magnetic fields associated with large power-transmission lines, and on the process for preparing a strategy for managing nutrient elements entering surface waters.

One formal hearing was conducted, on two proposed developments to be licenced under ***The Environment Act***: Simplot Canada's potato processing plant and the associated upgrade to City of Portage la Prairie's Water Pollution Control Facility. This hearing also involved co-ordination of review of funding applications under Participant Assistance Program.

Public education activities included commissioning a Hearing Effectiveness Study, and hosting The Boreal Forest Forum, a large public education event.

Table CE.1
12.6 Clean Environment Commission

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Salaries and Employee Benefits	297.9	3.00	261.8	36.1	
Other Expenditures	289.3		274.3	15.0	

Chapter 23

International Institute for Sustainable Development

The Institute promotes the concept of environmentally sustainable economic development and the integration of the principles and practices of sustainable development within and between the public, private and voluntary sectors on a national and international basis.

The Institute issues a separate ***Annual Report***.

Table II.1
12-7 International Institute for Sustainable Development

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	1,060.0		1,145.9	(85.9)	

Chapter 24

Infrastructure and Minor Capital Projects

Equipment

Departmental programs were supported by purchasing equipment and paying for minor infrastructure. Funding was allocated for computer hardware, office renovations, and groundwater investigation equipment.

Table IM.1

12-8(a) Equipment

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	269.2		460.6	(191.4)	

Water Projects

Projects (most being multi-year) included Assiniboine River dyke refurbishment, construction of Netley Creek, right-of-way, acquisition for South-Buffalo Creek project, below-waterline refurbishment Red River Floodway Inlet Control Structure's west gate, and clean-up of construction at the pumping station near The Pas.

Several waterway crossings were replaced or repaired. Substantial flood-damaged infrastructure after spring flooding was restored.

Table IM.2

12-8(b) Water Projects

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	$4,949.6		$5,065.4	(115.8)	

Park Facilities

The program improved campgrounds, including expansion in Whiteshell Provincial Park (Big Whiteshell and Brereton Lake), campsite enlargement and levelling at Paint Lake, electrification in Bakers Narrows and Clearwater Lake Provincial Parks, and opening of Pembina Valley Provincial Park. The swimming lake at Birds Hill was levelled with new sand, group-use areas developed at Norris Lake and St. Malo, and continued enhancement of West Hawk Hatchery Visitor Centre. Washroom buildings were upgraded throughout the system. Resurfacing of Grand Beach roads included widening for bicycle lanes. Additional work on the bicycle trail from Falcon Lake to West Hawk Lake was completed. Water system upgrades and disability access continue to be priorities.

The sewage lagoon expansion at Falcon Lake was completed, as was a solid waste transfer station for Hecla.

Table IM.3

12-8(c) Park Facilities

Expenditures by Sub-appropriation	Actual 2001/02 $	Estimate 2001/02 FTE	Estimate 2001/02 $	Variance Over/(Under)	Expl. No.
Total Other Expenditures	3,761.7		4,193.3	(377.6)	

Chapter 25

Amortization of Capital Assets

The Department expended the annual amortization costs of all completed assets based on the useful life of each asset. Assets purchased or constructed in 2001-02 were expensed at one-half the annual amortization rate. The amortization expense also included the portion of corporate information technology projects attributable to the Department.

Table AC.1

12.9 Amortization of Capital Assets

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Other Expenditures	2,515.6		3,189.4	(673.8)	

Chapter 26

Flood Proofing Programs

Funding assistance continued for moving, raising or dyking homes, businesses and other properties in Red River Valley.

A $100 million, Phase II *Agreement* with Canada, to continue and complete recovery from the 1997 flood, was administered. The $50 million provincial contribution was allocated among five program elements as follows:

- Home/business floodproofing ($20.3 million)
- Community dyking ($17.5 million)
- City of Winnipeg work ($5.2 million)
- Environmental impact mitigation ($2.5 million)
- Provincial flood control infrastructure ($4.5 million)

Administration of home and business flood proofing continued, providing funding to clients for a total federal/provincial expenditure of about $7.9 million.

Co-ordination of community ring-dyke projects for communities in Red River Valley continued with completion of feasibility studies and development of contract documentation for construction. Community ring-dyke projects were completed at Gretna, Lowe Farm, Rosenfeld, Riverside, St. Lazare, and St. Pierre. Substantial progress was made at other communities, including Ste. Agathe. To facilitate dyking at other communities, agreements were signed with local authorities and land acquisition was mostly completed. Federal/provincial expenditure for community dyking amounted to about $11 million.

Construction of two openings (notches) in the south-easterly embankment of the Floodway, between St. Mary's Road and Grande Pointe, was partially completed to allow about 3% more flow (about 2,000cfs) to enter during 1997-size floods, without increasing upstream water elevation. Minor upgrading to West Dyke and restoration of 1997 flood damage was completed. Permanent extension to West Dyke along PR 305 was also completed, except for clean-up. Below water-line refurbishment was completed on the Inlet Control Structure's West Gate.

Table FP.1
12-10 Flood Proofing Programs

Expenditures by Sub-appropriation	Actual 2001/02	Estimate 2001/02		Variance Over/(Under)	Expl. No.
	$	FTE	$		
Total Other Expenditures	22,342.9		20,502.3	1,840.6	

Chapter 27

Revenue and Expenditure Summaries

Table RE.1

Reconciliation Statement

Details	2001-02 Estimates
2001-02 Main Estimates	147,761.1
Allocation Of Funds From:	
- Finance re: Public Debt	427.0
- Industry, Trade and Mines	26.0
Transfer of Functions From:	
- Health	947.4
2000-01 Estimate	149,161.5

Table RE.2

Revenue Summary By Source

For year ended 31 March 2002 with comparative figures for the previous year

Actual 2000-01	Actual 2001-02	Increase (Decrease)	Source	2001-02 Actual	2001-02 Estimate	Variance	Expl. #
			Government of Canada				
151.0	151.0	0.0	1. Migratory Waterfowl Crop Damage Prevention Agreement	151.0	151.0	0.0	
10,308.4	8,571.8	(1,736.6)	2. 1997 Flood Proofing Program Phase II	8,571.8	7,780.1	791.7	1
			3. 1997 Flood Proofing Program Phase III		1,674.1	(1,674.1)	
	41.3	41.3	4. Promotion of Official Languages	41.3		41.3	2
10,459.4	8,764.1	(1,695.3)	**Sub-Total**	8,764.1	9,605.2	(841.1)	
			Current Operating Programs				
256.1	297.1	41.0	(a) Environment Fees and Sundry	297.1	312.8	(15.7)	
290.2	254.3	(35.9)	(b) Fisheries Fees and Sundry	254.3	230.3	24.0	
1,128.8	660.2	(468.6)	(c) 1997 Flood Proofing Program	660.2	1,693.2	(1,033.0)	3
6,045.1	6,534.9	489.8	(d) Forestry Fees and Sundry	6,534.9	6,547.0	(12.1)	
3,301.9	2,105.1	(1,196.8)	(e) Land Information Sales and Fees	2,105.1	3,476.8	(1,371.7)	4
5,890.3	5,830.7	(59.6)	(f) Licence Sales by Vendors	5,830.7	5,839.6	(8.9)	
9,211.6	9,379.4	167.8	(g) Parks Fees	9,379.4	9,751.4	(372.0)	5
1,677.7	2,105.5	427.8	(h) Regional Operations Fees and Cost Recovery	2,105.5	820.0	1,285.5	6
53,368.7	109,299.9	55,931.2	(i) Water Power Rentals	109,299.9	103,100.0	6,199.9	7
315.1	139.6	(175.5)	(j) Water Resources Sundry	139.6	204.8	(65.2)	8
50.0	51.2	1.2	(k) Wildlife Sundry	51.2	41.0	10.2	9
311.4	404.0	92.6	(l) Sundry	404.0	293.3	110.7	10
81,846.9	137,061.9	55,215.0	Sub-Total	137,061.9	132,310.2	4,751.7	
92,306.3	**145,826.0**	**53,519.7**	**Total Revenue**	**145,826.0**	**141,915.4**	**3,910.6**	
47.0	23.1	(23.9)	Sale of Government Assets	23.1	245.0	(221.9)	11

Explanation Number:

1. 1997 Flood Proofing – Phase III was not carried forward.
2. Variance is due to receipt of shared cost recovery for the following projects: developed and produced signage to replace existing signage along Sioux Pass Marsh self guiding Trail in St. Ambroise Beach Park; developed and produced three park entrance signs for Whiteshell Provincial Park, 1 PR307 Seven Sisters Entrance,1 PTH 44 Rennie Entrance,1 PTH 1 Falcon Lake Entrance.
3. The original estimate was calculated on a cash basis.
4. Recreation Subdivision Sales are lower than plan, as the Branch completed the majority of the cottage lot sales program in the fiscal year 2000/01. Other land sales were affected by the depletion of agricultural land inventories.
5. In the 2001/02 Estimates the vote for Park Vehicle Permit revenue was overestimated. The estimate was based on historical data.
6. Recoveries for fire suppression activities were higher than normal. These recoveries are mainly for suppression on Indian Reserves, CN, CP and HBC Railway lines as well as suppression assistance provided to other provinces under the MARS (Mutual Aid Resource Sharing) Agreement.
7. The 2001/02 actual for Water Power Rentals was 6% higher than that estimated because of favourable water supply conditions and consumer demands particularly from extra-provincial customers which was more robust than anticipated.
8. The 2001/02 actual for Water Resources was lower than that estimated mainly because the under utilization of Manitoba Hydro's Selkirk Thermal Generating Station was not anticipated when the estimate was prepared.
9. The actual income for fur royalties was higher than expected, based on greater than predicted harvests of aquatic species, particularly beaver .
10. The increase in sundry revenue is mainly due to an increase in recoveries for employee meals, board, and lodging related to the increase in the number of fires for the fire fighting program.
11. The revenue for the Sale of Government Assets is under for 2001-2002 because Land Management Services SOA on behalf of the Province of Manitoba and Government of Canada is holding all sale proceeds as work in progress pending the completion of this program. Land Management Services advises that upon completion of all demolitions and the finalization of all building sales, the funds will be determined and made available to Manitoba Conservation. Government of Canada requires that these funds are subject to re-investment into the program to offset future expenditures.

Table RE.3

Expenditure Summary

For fiscal year ended 31 March 2002 with comparative figures for the previous year.

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
	12-1 Administration and Finance				
28.1	(a) Minister's Salary	28.0	27.1	0.9	
	(b) Executive Support				
458.8	Salaries and Employee Benefits	444.6	430.7	13.9	
123.8	Other Expenditures	123.5	198.8	(75.3)	1
	(c) Corporate Services				
655.0	Salaries and Employee Benefits	616.9	910.1	(293.1)	2
762.9	Other Expenditures	724.0	576.9	146.1	3
	(d) Financial Services				
1,426.2	Salaries and Employee Benefits	1,388.9	1,451.0	(62.1)	
356.7	Other Expenditures	347.1	307.2	39.9	

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
	(e) Human Resource Services				
891.8	Salaries and Employee Benefits	880.8	795.9	84.9	
105.4	Other Expenditures	100.7	101.4	(0.7)	
	(f) Information Systems Technology				
1,269.3	Salaries and Employee Benefits	1,001.7	867.6	134.1	4
378.2	Other Expenditures	381.3	369.6	11.7	
6,456.2	Total 12-1	6,037.6	6,036.3	0.3	
	12-2 Conservation Support Services				
	(a) Computer Graphics				
504.8	Salaries and Employee Benefits	518.6	507.8	10.8	
50.9	Other Expenditures	41.4	62.1	(20.7)	5
	(b) Survey Services				
1,596.1	Salaries and Employee Benefits	1,292.2	1,251.7	40.5	
502.2	Other Expenditures	315.5	421.7	(106.2)	6
(1,570.7)	Less: Recoveries from Other Appropriations	(1,384.4)	(1,522.4)	138.0	
	(c) Distribution Centre				
388.2	Salaries and Employee Benefits	320.5	364.6	(44.1)	
351.6	Other Expenditures	317.8	328.3	(10.5)	
(95.0)	Less: Recoverable from other Appropriations	(67.9)	(69.0)	1.1	
1,728.1	Total 12-2	1,353.7	1,344.8	8.9	
	12-3 Regional Operations				
	(a) Headquarters Operations				
2,608.0	Salaries and Employee Benefits	3,035.5	2,992.5	38.3	
2,050.5	Other Expenditures	1,959.3	1,708.1	250.4	
240.6	Problem Wildlife Control	209.7	264.6	(54.9)	
	(b) Northwest Region				
2,275.4	Salaries and Employee Benefits	2,155.6	2,267.9	(112.3)	
801.1	Other Expenditures	785.8	839.5	(53.7)	
	(c) Northeast Region				
2,594.9	Salaries and Employee Benefits	2,188.4	2,164.0	24.4	
984.0	Other Expenditures	971.9	973.7	(1.8)	
	(d) Interlake Region				
3,358.9	Salaries and Employee Benefits	3,744.4	3,677.6	66.8	
1,437.7	Other Expenditures	1,342.6	1,765.6	(423.0)	7
	(e) Eastern Region				
3,386.5	Salaries and Employee Benefits	3,420.8	3,268.8	152.0	
969.5	Other Expenditures	924.2	991.4	(67.2)	
	(f) Western Region				
5,287.4	Salaries and Employee Benefits	5,258.9	4,892.9	366.0	
1,817.4	Other Expenditures	1,793.2	1,798.5	(5.3)	
	(g) Red River Region				
4,639.1	Salaries and Employee Benefits	3,337.9	3,268.4	69.5	
1,327.0	Other Expenditures	1,223.2	662.3	560.9	8
	(h) Fire Program				
4,839.3	Salaries and Employee Benefits	4,683.0	4,431.9	251.1	
7,792.9	Other Expenditures	7,372.1	7,231.2	140.9	
	(j) Office of Drinking Water				
118.2	Salaries and Employee Benefits				
1,009.4	Other Expenditures				

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
47,537.8	Total 12-3	44,406.5	43,198.9	1,202.1	
	12-4 Conservation Programs				
	(a) Divisional Administration				
305.2	Salaries and Employee Benefits	459.8	469.2	(9.4)	
140.1	Other Expenditures	1,685.4	1,762.4	(77.0)	
	(b) Water Management				
	(1) Administration				
312.9	Salaries and Employee Benefits	346.9	308.2	38.5	
2,157.0	Other Expenditures	658.9	1,631.8	(972.9)	9
25.0	Grant Assistance				
	(2) Water Licensing				
697.6	Salaries and Employee Benefits	877.0	660.6	216.4	10
45.8	Other Expenditures	45.2	32.3	12.9	11
	(3) Water Planning and Development				
1,072.1	Salaries and Employee Benefits	1,068.4	975.0	93.4	
87.9	Other Expenditures	114.9	103.5	11.4	
	(4) Surface Water Management				
821.2	Salaries and Employee Benefits	731.6	678.3	53.3	
293.6	Other Expenditures	241.0	209.2	31.8	
587.0	Canada-Manitoba Agreement for Water Quantity Surveys	548.4	447.5	100.9	12
	(5) Groundwater Management				
908.3	Salaries and Employee Benefits	825.2	802.0	23.2	
417.2	Other Expenditures	615.8	584.1	31.7	
	(6) Water Quality Management				
433.4	Salaries and Employee Benefits	428.8	407.4	21.4	
266.3	Other Expenditures	135.8	124.8	11.0	
3,960.8	(7) Waterway Maintenance	4,902.6	3,569.2	1,333.2	13
12,086.1	Total 12-4B	11,540.5	10,533.9	1,006.2	
	(c) Parks and Natural Areas				
	(1) Administration				
355.4	Salaries and Employee Benefits	393.3	356.8	31.5	
362.0	Other Expenditures	408.4	443.8	(35.4)	
191.2	Grant Assistance	191.2	191.2		
	(2) Planning and Development				
862.3	Salaries and Employee Benefits	819.5	866.7	(47.2)	
194.6	Other Expenditures	187.9	191.6	(3.7)	
	(3) Park Districts				
372.3	Salaries and Employee Benefits	467.6	425.4	42.2	
49.3	Other Expenditures	49.3	48.0	1.3	
	(4) Park Operations and Maintenance				
10,635.6	Salaries and Employee Benefits	10,446.1	10,118.8	327.0	
4,453.6	Other Expenditures	4,233.4	4,298.5	(65.1)	
	(5) Support Services				
287.1	Salaries and Employee Benefits	290.7	255.1	35.6	
294.0	Other Expenditures	283.8	46.5	237.3	14
18,057.3	Total 12-4C	17,771.2	17,242.4	523.5	
	(d) Climate Change				
753.4	Salaries and Employee Benefits	975.5	941.6	33.9	

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
260.7	Other Expenditures	362.9	388.8	(25.9)	
17.1	Grant Assistance	18.5	17.1	1.4	
1,031.2	Total 12-4D	1,356.9	1,347.5	9.4	
	(e) Forestry				
	(1) Administration				
399.5	Salaries and Employee Benefits	360.0	348.6	10.8	
434.1	Other Expenditures	502.3	419.9	82.4	
153.4	Grant Assistance	153.4	153.4		
	(2) Forest Inventory and Resource Analysis				
863.6	Salaries and Employee Benefits	875.2	882.8	(7.6)	
940.1	Other Expenditures	723.6	691.4	32.2	
	(3) Forest Health and Ecology				
1,786.6	Salaries and Employee Benefits	2,045.2	1,975.1	70.1	
2,637.2	Other Expenditures	1,987.4	2,118.7	(131.3)	
	(4) Forest Management and Development				
489.7	Salaries and Employee Benefits	359.8	347.9	11.9	
50.7	Other Expenditures	65.7	94.7	(29.0)	15
1,411.9	(5) Forest Regeneration Stock	1,584.6	1,453.7	130.9	
9,166.8	Total 12-4E	8,657.2	8,486.2	170.4	
	(f) Fisheries				
	(1) Administration				
124.4	Salaries and Employee Benefits	125.1	121.1	3.8	
199.5	Other Expenditures	203.8	199.5	4.3	
	(2) Fish Culture				
657.8	Salaries and Employee Benefits	682.0	694.6	(12.6)	
279.9	Other Expenditures	259.3	277.0	(17.7)	
	(3) Fisheries Habitat Management				
446.8	Salaries and Employee Benefits	343.3	392.4	(49.1)	
61.5	Other Expenditures	105.6	86.9	18.7	
	(4) Sport and Commercial Fishing Management				
621.5	Salaries and Employee Benefits	630.7	630.2	0.5	
70.0	Other Expenditures	66.4	73.5	(7.1)	
410.0	(5) Northern Fishermen's Freight Assistance	410.0	410.0		
350.0	(6) Fisheries Enhancement Initiative	349.0	349.8	(0.8)	
3,220.9	Total 12-4F	3,175.2	3,235.0	(60.0)	
	(g) Wildlife and Ecosystem Protection				
	(1) Administration				
469.9	Salaries and Employee Benefits	389.0	387.0	2.0	
445.6	Other Expenditures	480.8	436.5	44.2	
207.0	Grant Assistance	207.0	207.0		
	(2) Game and Fur Management				
631.5	Salaries and Employee Benefits	604.0	588.5	15.5	
304.6	Other Expenditures	365.8	219.6	146.2	16
89.9	Grant Assistance	89.9	89.9		
	(3) Habitat Management and Ecosystem Monitoring				
682.4	Salaries and Employee Benefits	628.1	915.3	(6.5)	
81.5	Other Expenditures	69.5	142.1	(47.6)	17

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
645.0	Grant Assistance	645.0	645.0		
	(4) Biodiversity Conservation				
274.6	Salaries and Employee Benefits	242.1	263.0	(20.9)	
98.2	Other Expenditures	83.4	86.9	(3.5)	
348.4	(5) Canada-Manitoba Waterfowl Damage Prevention	301.4	334.3	(32.9)	
225.0	(6) Wildlife Habitat Enhancement Initiative	217.3	214.9	2.4	
4,771.0	Total 12-4G	4,323.1	4,236.0	87.2	
	(h) Terrestrial Quality Management				
280.0	Salaries and Employee Benefits	280.7	275.9	4.8	
29.1	Other Expenditures	25.0	18.1	6.9	18
309.1	Total 12-4H	305.7	294.0	11.7	
	(j) Pollution Prevention				
540.2	Salaries and Employee Benefits	552.5	573.8	(21.3)	
92.4	Other Expenditures	51.4	46.2	5.2	
632.6	Total 12-4J	603.9	620.0	(16.1)	
	(k) Lands				
	(1) Crown Lands Operations				
813.1	Salaries and Employee Benefits	770.1	733.2	36.9	
1,481.2	Other Expenditures	1,269.9	1,273.1	(3.2)	
	(2) Crown Lands Registry				
237.6	Salaries and Employee Benefits	163.2	186.5	(23.3)	
197.0	Other Expenditures	118.9	144.6	(25.7)	
	(3) Remote Sensing				
696.1	Salaries and Employee Benefits	613.5	644.4	(38.5)	
306.4	Other Expenditures	75.9	22.4	53.5	19
(23.7)	Less: Recoverable from other Appropriations	(17.5)		(17.5)	
	(4) Land Mapping Services				
453.9	Salaries and Employee Benefits	517.7	503.8	9.8	
90.2	Other Expenditures	72.1	191.1	(119.0)	20
4,251.8	Total 12-4K	3,583.8	3,699.1	(127.0)	
50.0	(m) Habitat Enhancement Fund	50.0	50.0		
432.1	(n) Special Conservation and Endangered Species Fund	300.2	354.8	(54.6)	
54,145.1	Total 12-4	53,812.9	52,330.5	1,464.3	
	12-5 Environmental Stewardship				
	(a) Divisional Administration				
151.1	Salaries and Employee Benefits	142.7	131.0	11.7	
225.8	Other Expenditures	156.3	202.3	(46.0)	
110.9	Grant Assistance	91.4	69.5	21.9	
	(b) Sustainable Resource Management				
1,029.7	Salaries and Employee Benefits	1,117.9	1,070.1	47.9	
1,292.6	Other Expenditures	918.8	268.0	650.8	21
10.2	Less: Recoveries from Other Appropriations				
	(c) Environmental Assessment and Licensing				

Estimate 2001-2	Appropriation	Actual 2001-2	Actual 2000-01	Increase (Decrease)	Explanation #
1,134.5	Salaries and Employee Benefits	1,067.2	1,087.0	(19.8)	
125.4	Other Expenditures	116.1	144.2	(28.1)	
	(d) Aboriginal Relations				
125.1	Salaries and Employee Benefits	110.8	114.3	(3.5)	
50.0	Other Expenditures	29.2		29.2	22
4,265.3	Total 12-5	3,750.4	3,086.4	664.1	
	12-6 Clean Environment Commission				
261.8	Salaries and Employee Benefits	297.9	205.5	92.4	23
274.3	Other Expenditures	289.3	266.8	22.5	
536.1	Total 12-6	587.2	472.3	114.9	
1,145.9	**12-7 International Institute for Sustainable Devlpment**	1,060.0	1,145.8	(85.8)	
1,145.9	Total 12-7	1,060.0	1,145.8	(85.8)	
	12-8 Infrastructure and Minor Capital Projects				
	(a) Equipment				
460.6	Other Expenditures	269.2	440.6	(171.4)	24
	(b) Water Projects				
5,065.4	Other Expenditures	4,949.6	4,204.2	745.4	25
	(c) Park Facilities				
4,139.3	Other Expenditures	3,761.7	4,122.7	(361.0)	
9,665.3	Total 12-8	8,980.5	8,767.5	213.0	
3,189.4	**12-9 Amortization, Other Costs Related to Capital Assets**	2,515.6	2,467.8	47.8	
3,189.4	Total 12-9	2,515.6	2,467.8	47.8	
25,627.8	**12-10 Flood Proofing Programs**	22,342.9	28,343.2	(6,000.3)	26
25,627.8	Total 12-10	22,342.9	28,343.2	(6,000.3)	
149,161.5	TOTAL EXPENDITURES	144,847.5	147,193.5	(2,370.7)	
889.0	**B.2 Capital Investment – Conservation**	888.6	902.4	(13.8)	

Explanations

1. Decrease in Executive Support Other Expenditures is attributable to less activity in current year, compared to 2000-01. The Minister's Northern office was funded from Sustainable Resource Management and Corporate Services in 2001-02.
2. Decrease in Corporate Services Salaries and Employee Benefits is related to two retirements with severance pay and vacation leave.
3. Increase in Corporate Services Other Expenditures is due to additional costs for relocation and office renovations for amalgamation and integration.
4. Increase in Information Technology Services salaries and employee benefits is attributable to vacancies filled at end of May 2001. In addition, an employee replacement for a Leave of Absence was paid at a higher level from 13 June 2001 to 31 March 2002.
5. Decrease in Computer Graphics other expenditures is attributable to: reduction in travel and training costs, graphic design systems and related software packages not purchased in 2001-02 due to discretionary spending, and delay in purchase of Macintosh computers.
6. Decrease in Survey Services Other Expenditures is attributable to Grand Rapids Forebay survey costs being charged to Sustainable Resource Management.
7. Decrease in Interlake Region Other Expenditures is due to transfer of Engineering and Portage District Operation expenditures from Interlake to Red River Region. During 2001-02 Estimates process, the budget for Engineering and Portage District Operations was misaligned. Related expenditures were paid

from Red River Region, causing under-expenditure in the appropriation. There was also a decrease in ACRS billing for Riverton Office as the lease expired in June 2001. Further decreases resulted from 4th quarter Treasury Board Directive.

8. **Increase in Red River Region Other Expenditures due to transfer of Engineering and Portage District Operation expenditures from Interlake Region to Red River. During 2001-02 Estimates process, the budget for Engineering and Portage District Operations was misaligned. Related expenditures were paid from Red River Region, causing over-expenditure. A further increase was due to payment of expenditures related to *The Public Health Act* and *The Environment Act*. The related budget was realigned to Fire Program in 2001-02 Estimates in error. Over-expenditure is also due to payment of Dangerous Goods expenditures. This budget was misaligned in Headquarters Region in 2001-02 Estimates.**
9. **Decrease in Water Management Administration Other Expenditures is due to payment to Fairford First Nations for Fairford Bridge, approved in 2000-01 fiscal year by Treasury Board, offset by increase of Branch administration operating costs.**
10. Increase in Water Licensing Salaries and Employee Benefits is due to filling 5 FTE positions, one vacant and four filled as per Treasury Board Minute #25A/99-12(g). The Department was to fund these incremental FTE's from within existing salary funding. All four staff were no longer employed at February 2001. In 2001-02, these positions were filled for the full year.
11. Increase in Water Licensing Other Expenditures is attributable to travel expenditures related to four additional term staff and one permanent position filled in 2001-02 in the Licensing Section of the Branch.
12. Increase in the *Canada-Manitoba Agreement* is due to cost increases approved by Treasury Board. These included the Flood Proofing Program enhancement, mercury cleanup, increased operating periods, inflation, offset by a transfer to Manitoba Hydro.
13. Increase in Waterway Maintenance is due to 2001-02 Flood Restoration labour costs charged against the appropriation.
14. Increase in Support Services Other Expenditures is due to a new initiative in 2001-02. Treasury Board Minute TB22A/2000, directed Parks to enter into a contract with SR & J Customer Care and Reserve America to provide software and server support to the centralized Parks Reservation System.
15. Decrease in Forest Economics and Marketing Other Expenditures is due to a tendered consulting contract with Agfor. The contract, identified in TB26B/2000-12(a), with Agfor, to study current and potential forestry fees.
16. Increase in Game and Fur Management Other Expenditures is due to additional activities/new programs in 2001-02. These include the bovine tuberculosis new program; Elk compensation payment; the Game Bird Program transferred from Habitat with costs expended from Habitat in the previous year.
17. Decrease in Habitat and Land Management is due to: Game Bird Program costs transferred to Game and Fur Management in 2001-02; wildlife projects such as Watchable Wildlife, Project WILD, etc. expended from Administration for 2001-02. There was also an unanticipated land acquisition of the Chudy property for a Wildlife Management Area.
18. Increase in Terrestrial Quality Management is attributable to payment relating to the Pasquia Agreement.
19. Increase in Remote Sensing is due to purchase of satellite imagery, support and update, MRSID Workstation Encoder and support, Training, Maintenance, Labour and Expenses for equipment repairs, contribution to living expenses for Provincial/Territorial Coordinator position with GeonConnections Secretariat in Ottawa, purchase of Geo Model and support, and of administrative expenses.
20. Decrease in Land Mapping Services is due to a payment of Linnet Contract for Information Utility in 2000-01 which was not renewed for 2001-02, offset by purchases of cadastral mapping software licenses, increased land title services, and minor supplies.
21. Increase in Sustainable Resource Management Other Expenditures is due to program-related expenditure paid in 2001-02 vs 2000-01. These include: East Side Planning (new initiative in 2001-02), legal costs re Devils Lake/Garrison, implementation of COSDI, Wuskwatim hydro project costs, legal services, forest lands inventory, Grand Rapids Forebay Survey costs and French language service centers.
22. Increase in Aboriginal Relations other expenditures is due to implementation of the new Aboriginal Relations Branch in 2001-02.
23. Increase in Clean Environment Commission salaries and employee benefits is due to secretarial support staff salaries, and to 12 months salary for CEC chairperson in 2001-02 vs 4 months in 2000-01. There was no support staff in 2000-01 and the Chairperson was filled in November 2000.

24. The decrease is due to delay in acquisition of various minor capital equipment as well as a lapse to partially offset the over-expenditure related to spring flood-fighting costs in Waterway Maintenance.
25. Increase in Water Projects is attributable to Spring Flood 2001 costs charged to Water Projects Capital.
26. Decreases in Flood Proofing Programs is attributable to reduced activity in Home and Business component, contingent liability re Fairford First Nation, reduced activity in Community Ring Dykes component because of delays caused in purchasing land; reduced activity in Provincial Infrastructure component; and reduction in number of 1997 flood insurance claims. This was offset by increases in Environmental Impacts and City of Winnipeg. Because of late snowfall, more people than anticipated were able to complete their individual flood proofing projects in October and November.

Table RE.4

Five Year Expenditure and Staffing Summary by Appropriation

For Years Ending 31 March 1998 to 31 March 2002

	Actual/*Adjusted Estimates Of Expenditure						Adjusted Vote		Main Estimates	
	1997-98		1998-99		1999-00		2000-01		2001-02	
	FTEs	$(000's)	FTEs	$(000's)	FTEs	$(000's)	FTEs	$(000's)	FTEs	$(000's)
Administration and Finance	111.33	6,059.0	107.83	6,139.1	108.83	6,729.4	99.83	6,036.3	93.83	6,037.6
Conservation Support Services	53.00	1,500.6	53.00	1,500.6	53.00	1,616.6	57.00	1,344.8	52.00	1,353.7
Regional Operations	497.65	36,718.3	499.35	37,350.6	504.45	40,228.4	500.35	43,198.9	543.35	44,406.5
Conservation Programs	608.44	50,330.2	610.34	50,205.1	615.82	52,636.7	608.29	52,330.5	550.34	53,813.1
Environmental Stewardship	42.00	2,449.1	46.00	2,954.1	41.50	3,105.4	39.50	3,086.4	41.00	3,750.4
Clean Environment Commission	3.00	285.0	3.00	285.0	3.00	285.0	3.00	472.3	3.00	587.2
International Institute for Sustainable Development		916.8		1,145.8		1,145.8		1,145.8		1,060.0
Infrastructure, Minor Capital Projects	-	12,012.7		8,684.4		7,860.4		8,767.5		8,980.5
Amortization, Capital Assets	-	-		648.7		2,234.1		2,467.8		2,515.6
Sub-total, Operating Appropriations	1,315.42	110,271.7	1,319.52	108,913.4	1,326.60	115,841.8	1,307.97	118,976.4	1,292.52	122,504.6
Flood Proofing Programs	-	9,989.0	-	37,629.4		23,478.5		28,343.2		22342.9
Court Judgement	-	-	-	123.5						
Total, Department	**1,315.42**	**120,260.7**	**1,319.52**	**146,666.3**	**1,326.60**	**139,320.3**	**1,307.97**	**147,193.5**	**1,292.52**	**144,847.5**

*** Adjusted figures reflect historical data on a comparable basis in those appropriations affected by re-organization.**

Chapter 28

Publications

Climate Change

Prokopowich, J. **Air quality monitoring at selected communities in Southwestern Manitoba near petroleum handling facilities (Virden, Pierson, Waskada and Deloraine).** Manitoba Conservation Report 2002-01
Hybrid electric vehicles = Vehicules hybrides, bookmark
Hybrid electric vehicles: on the road to a cleaner environment = Vehicules hybrides: en route vers un environnement plus sain, pamphlet
Hybrid vehicle, fact sheet
Manitoba and climate change: investing in our future: report of the Manitoba Climate Change Task Force
R-2000 update, Issue 8, September 2001
R-2000 update, Issue 9, March 2002

Environmental Approvals

Alteration(s) In A Development Under The Manitoba Environment Act, Information Bulletin No. 2001-03E

Fisheries

Lysack, W. **Fisheries surveys of Duck Mountain lakes.** Manuscript Report 01-01
Manitoba anglers' guide 2002
Manitoba Fisheries Enhancement Initiative Annual Report 2000-2001

Forestry

Bohning, R.A., Middlebro', W.G.A., Bell, J.L. **Directory of Primary Wood-using industries in Manitoba,** 2001. Nat. Resour. Canada, Canadian Forest Service, 2001
Five Year Report on the Status of Forestry: April 1996 - March 2001
Next steps: priorities for sustaining Manitoba's forests
Knowles, K. and Matwee, L. **Spruce Budworm 2001 report and predictions for 2002**

Operations

Fire administration manual

Parks and Natural Areas

Amisk proposed provincial park, brochure
Asessippi interpretative park map (revised)
Atikaki interpretative park map (revised)
The camper's guide: Manitoba's provincial parks
Clearwater Lake Provincial Park consultation map
Cottagers newsletter (2)
Duck Mountain interpretative park map (revised)
East Paint Lake proposed provincial park, brochure
Ecological reserves: outstanding examples of Manitoba's unique sites and landscapes

Fall for camping in Manitoba
Family vacation cabins
Group use areas
Hecla/Grindstone interpretative park map (revised)
Manigotagan River proposed provincial park, brochure
Manitoba magic
Manitoba's Protected Areas Initiative First Nations and northern communities sector consultation map
Manitoba's Protected Areas Initiative forest sector consultation map
Manitoba's Protected Areas Initiative mining sector consultation map
Nopiming interpretative park map (revised)
Paint Lake interpretative park map (revised)
Parks reservation service
Pembina Valley interpretative park map
Proposed boundaries Pinawa Dam Provincial Park map
Provincial parks guide 2001
South Atikaki proposed provincial park, brochure
Towards a management plan for Duck Mountain Provincial Park, newsletter
Towards a management plan for the Hayes River, newsletter
Trappist Monastery proposed provincial park, brochure
Turtle Mountain interpretative park map (revised)
Volunteer campground host
Fehr, E. **Water quality program report: 2001 - 2002**

Pollution Prevention

A plan to manage household hazardous waste in Manitoba
Directives sur la gestion des debris de construction et de demolition, Directives 2002-01F
Guideline for construction and demolition waste management, Guideline 2002-01E

Sustainable Resource Management

Building a sustainable future: proposed changes to Manitoba's Environment Act: a discussion paper
Listening to Manitobans: building a sustainable future, brochure
East Side Lake Winnipeg, Phase 1 Preliminary Discussions, "Summary of Comments and Recommendations from Phase 1 Discussions", Broad Area Planning Initiative, November 6 2001.
Manitoba's Provincial Sustainable Development Code of Practice

Water

Aquatic nuisance species, Whiteshell Echo, May 2001
Hughes, C. E. and S. Gurney. **Biological quality of four urban creeks, Winnipeg, Manitoba, Canada, April 2001**. Manitoba Conservation Report 2001-06
Building a sustainable future: water: a proposed strategic plan for Manitoba
Bowering, R. **Comment on "the Cultures of Flood Management in Canada: Insights from the 1997 Red River Experience" by Dan Shrubsole**. Canadian Water Resources Journal 27 (1): 117-118
Jones, G. and N. Armstrong. **Long-term trends in total nitrogen and total phosphorus concentrations in Manitoba streams, December 2001**. Manitoba Conservation Report 2001-07
Obtaining a Water Rights Licence for Water Use
Red River Valley Flood Protection Annual Report 1999/2000 (co-published with the Prairie Farm Rehabilitation Administration)
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Hughes, C. E. **Water and biological quality of twenty seven major streams in south and central Manitoba, Canada, 1995 through 1998, April 2001**. Manitoba Conservation Report 2001-05

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Water Quality in the Rat River, 2001

Water Quality in the Whitemouth River, 2001

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Hinam, H. and J.R. Duncan. **The effects of habitat fragmentation and slope on the distribution of three owl species in the Manitoba Escarpment, Manitoba, Canada.** Owls 2000: The biology, conservation and cultural significance of owls. 19-23 January 2000, Manning Clark Centre, Australian National University, Canberra, Australia

Geese in Winnipeg, A Homeowner's Guide for Managing Canada Geese

Takats, D.L., C.M. Francis, G.L. Holroyd, J.R. Duncan, K.M. Mazur, R.J. Canings, W. Harris and D. Holt. **Guidelines for Nocturnal Owl Monitoring in North America.** Beaverhill Bird Observatory and Bird Studies Canada, Edmonton, AB

Duncan, J.R. **Manitoba Dragonfly Survey: Citizen's Monitoring Guide**

Manitoba hunting guide 2001-2002

Manitoba trapping guide 2001 - 2002

Manitoba's species at risk – Burrowing Owl

Manitoba's species at risk – Baird's Sparrow

Manitoba's species at risk – Peregrine Falcon

Manitoba's species at risk – Great Plains Ladies' -tresses

Manitoba's species at risk – Great Plains Toad

Manitoba's species at risk – Ferruginous Hawk

Manitoba's species at risk – Western Spiderwort

Manitoba's species at risk – Western Silvery Aster

Hamel, C. D., De Smet, K. and Reimer, E. **New roundleaf monkey-flower (*Mimulus glabratus*) occurrences in Manitoba.** Blue Jay 60 (2):83-87.

Reimer, E. and Hamel, C. D. **Rare species surveys of the Manitoba Conservation Data Centre, 2001.** Manitoba Conservation Data Centre MS Report Number 02-02

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Duncan, J.R. and R.W. Nero. **The Spectacular Great Gray Owl Invasion of 2000-2001.** The Manitoba Chapter Wildlife Society Newsletter. February 2001: 3-5

Canadian Endangered Species Conservation Council (CESCC). **Wild Species 2000: The General Status of Species in Canada.** Ottawa: Minister of Publics Works and Government Services Canada

Chapter 29

Legislation

The Conservation Agreements Act C173
The Contaminated Sites Remediation Act C205
The Crown Lands Act C340
[except Sections 6, 7, 10, 12(1), 14, 16, 17, 18, 21, 23 and 24 to 28 both inclusive, insofar as they relate to the administration of Crown Lands which may be designated by the Minister of Conservation as agricultural Crown Lands, and Agricultural Crown Lands Grazing and Hay Permits Regulation (Manitoba Regulation 288/88) and Forage Leases Regulation (Manitoba Regulation 46/88 R)]
The Dangerous Goods Handling and Transportation Act D12
The Dutch Elm Disease Act D107
The Dyking Authority Act D110
The Ecological Reserves Act E5
The Endangered Species Act E111
The Energy Act E112
The Environment Act E125
The Fires Prevention Act (Part I) F80
The Fisheries Act (except Part III) F90
The Fishermen's Assistance and Polluters' Liability Act F100
The Forest Act F150
The Ground Water and Water Well Act G110
The Manitoba Habitat Heritage Act H3
The Manitoba Hazardous Waste Management Corporation Act H15
The Homeowners Tax and Insulation Assistance Act H75
(Part V and section 1 and Part VI as they related to subjects covered under Part V)
The International Peace Garden Act I70
The Lake of the Woods Control Board Act L30
The Manitoba Natural Resources Transfer Act N30
The Natural Resources Agreement Act, 1938 N40
An Act to ratify a certain Agreement between the Government of the Dominion of Canada and the Government of the Province of Manitoba N50
The Manitoba Natural Resources Transfer Act, Amendment Act N60
The Manitoba Natural Resources Transfer Act, Amendment Act, 1963 N70
The Ozone Depleting Substances Act O80
The Provincial Parks Act P20
The Plants Pests and Diseases Act P90
[that portion of clause 16(c) that pertains to arborists and clause 16(i)]
The High-Level Radioactive Waste Act R10
The Surveys Act (Part II) S240
The Sustainable Development Act S270
The Tourism and Recreation Act T100
(that portion of clauses 4(c) and (d), sections 5 and 6 and clauses 8(1)(a), (d), (f) and (g) that pertain to the licensing and operation of outfitters, hunting or fishing lodges and their out-camps)
The Waste Reduction and Prevention Act W40
The Water Commission Act W50
The Water Power Act W60
The Water Resources Administration Act W70
The Water Resources Conservation and Protection Act W72
The Water Rights Act W80
The Water Supply Commissions Act W100

The Wildfires Act W128

The Wildlife Act W130

[except that portion of clause 89(e) that applies to compensation for damage to crops caused by wildlife as it pertains to big game and migratory waterfowl]

The Wild Rice Act W140

The Manitoba Fishery Regulations made pursuant to Section 34 of the Fisheries Act (Canada)